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Study Abroad, Inequality, and the Influence on Careers and Education:
Are Some Horizons Broader than Others?

A Dissertation Presented

by

SUZAN KOMMERS

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree

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February 2020

College of Education

Study Abroad, Inequality, and the Influence on Careers and Education:

Are Some Horizons Broader than Others?

A Dissertation Presented

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SUZAN KOMMERS

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Ryan Wells, Chair

Chrystal George Mwangi, Member

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College of Education

DEDICATION

To my oldest travel companions,

Piet, Margriet & Jacqueline.

*Bertje Bever woont hier pas en hij kent nog niemand.
Foxy Vos ziet hem zitten. Ze gaat naar haar vriendjes en zegt:
“Zullen we een welkomstfeest geven voor onze nieuwe buurman?”
[...]
En nu heeft Bertje Bever allemaal nieuwe vriendjes!
Komen jullie gauw bij mijn dam spelen?*

– Maria Grazia Boldorini
Welkom Bertje Bever, Mulder & Zoon, 1999

ACKNOWLEDGEMENTS

*Sometimes you will never know the value of a moment
until it becomes a memory. – Dr. Seuss*

The past five years have been like a dream. In a while, I will return to the Netherlands, the country I lived in for the first 24 years of my life. This country, as normal as it once felt, will never be the same again. I cannot go for hikes anymore without longing for the stunning U.S. national parks. I will not be able to think about education anymore without feeling it should be more inclusive and equitable. Most of all, I will forever miss the amazing people I have had the pleasure to meet during my time in the U.S. I am incredibly grateful for all the great help, support and company I received from so many. You mean the world to me.

I would like to start by thanking my committee members for supporting me in this final phase of the doctoral program; David, for the Skype meetings between the U.S. and South Africa and Chrystal for supporting me from year one. Moreover, I would like to thank all the people who made the college such a joyful place. Thank you Nicole, Jennie, Kristin and Mike for making everything work. I am very grateful to Kate and Zeke for their inspiring lectures. I am also deeply grateful to Gerardo Blanco who gave me the chance to do my master's internship at UMass Boston and encouraged me to apply for the Ph.D. program at UMass Amherst. He could not have given me any better advice.

This program would have not been the same without my brilliant and compassionate friends and colleagues in Furcolo: Genie, Sadaf, Victoria, Kayla, Anna, Hanni and Mujtaba. Thank you for all the cheerfulness and great vibes. A special thanks goes out to Cathy, who was always full of enthusiasm to think through statistical analyses

with me. Also a big thank you to Kristen who supervised me at my work for the Office for Student Success and gave me the opportunity to develop skills that I will be using many more times in the future.

Ryan, you took me on as a graduate assistant and, while I sometimes seriously doubted myself, you gave me your full confidence. You encouraged me to learn, make mistakes and then learn from them even more. Your remarkable capacity to mix expertise with kindness and great humor resulted in the situation where, after each meeting, I walked back to my desk feeling enthusiastic to get back to work. As my advisor, you never once told me what to do. Instead, you encouraged me to explore and weigh the options, making me more intentional in my work and in the decisions I make. “You win some, you lose some” was what you would always tell me – and you are right. What I win by having had the most amazing doctoral advisor, I lose by most likely not having such a great mentor in my life again. Ryan, I am forever grateful for the opportunities you have given me to develop as a researcher and for making my Ph.D. a wonderful adventure. I aspire to, one day, become a great mentor to someone else – and If I succeed, it will be in large part because of the great example I found in you.

Koboul and Alicia, I cannot begin to express how much your friendship means to me. I will always remember our many trips to the mall, all the mountains we hiked, the bars we visited, and all the other unforgettable memories we created. And yes, despite all the mean jokes, you were terrific support. Thanks to you two, I will leave the U.S. not just with a degree, but with friends for life.

I never believed that friendships could deepen even further while being far apart but my friends in the Netherlands have proven me wrong. My ‘tall sweethearts’ Margriet

and Steph, thank you for making sure I was part of all the exciting things happening in your lives. Thanks also to my great friends Spark and Carolien for sharing their Ph.D. experiences and helping me stay grounded and focused.

Sjoukje, you have given me the courage to start this adventure and through countless hours of voice messages, you were with me every day. I think our friendship is the ultimate proof that while physically far away, you can be emotionally close. Also, my dissertation would not have looked half as good without your brilliant cover illustration.

Lastly, I would like to thank all the other terrific people in the Netherlands that make me feel like home the moment I set foot on Dutch grounds again. A special thanks goes to Paul, Els, Sam, Suzanne, and the rest of the Huisman family.

Jon, Cris, Pete and Olliebollie, thank you for being so heartwarmingly supportive and welcoming. I will admit that it was the dog that lured me in initially, but I am forever grateful for the home away from home you gave me. The always wagging tail, master-chef quality meals and a fresh doctor pepper shirt always made me smile and filled me with warmth. You have come to feel like family to me.

Fortunately, my own family never felt far away. I would often take a walk outside of Furcolo and call my grandparents. During sleepovers at ‘Opa and Oma’ we would go for a walk around the neighborhood and look at all the changes: leaves turned, houses being built, playgrounds coming and going. Hearing my grandparents’ voices while watching the trees change color behind Furcolo would remind me that life always in flux and ever changing. Thank you Opa and Oma for everything you have given me, the wonderful memories and the realization that endless love is possible.

Mama, papa and Jacqie, when people ask me how my family feels about me doing a Ph.D. in a foreign country I tell them it is was their own doing. You taught me to be curious and made me eager to learn about the world. Like in my favorite children story which I asked you to read to me over and over again (Bertje Bever), I found friends in every new place I arrived. Moreover, you gave the perfect example that to love each other, physical distance does not matter. I owe everything to a lifetime of your love and support. My oldest travel companions, you travel with me wherever I go.

I cannot wait to see what the future will bring. And when I think about the future, I dream about that future with you in it Max. I feel so incredibly lucky that we have shared the adventure of the past years together – all the wonderful things we have experienced and all the challenges on the way. Whatever it was, you reminded me of its beauty. Whatever lies ahead, it will be beautiful with you.

ABSTRACT

STUDY ABROAD, INEQUALITY, AND THE INFLUENCE ON CAREERS AND EDUCATION: ARE SOME HORIZONS BROADER THAN OTHERS?

FEBRUARY 2020

SUZAN KOMMERS, B.S., UTRECHT UNIVERSITY

M.S., UTRECHT UNIVERSITY

Ph.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Ryan Wells

Study abroad is one of the main ways in which higher education institutions provide students with the opportunity to gain international experiences. While study abroad is mostly discussed in terms of the beneficial effects on students' learning and development, the results in this dissertation indicate that study abroad works for some but disadvantages other students. Based on nationally representative U.S. data, I examined 1) disparities in students' opportunities to study abroad as well as the effect of study abroad on the socioeconomic outcomes 2) early career income and 3) graduate school enrollment. The combined studies in this dissertation provided insight into how study abroad may contribute to the reproduction of social inequality.

The first study indicated disparities in students' opportunities to study abroad. Specifically, first generation, low-income students, students of color and rural students tend to study abroad less often than their peers. In the second study, I found that participation in study abroad did not result in a higher income within the four years after students graduated from their undergraduate degree. This suggests that there is no

immediate effect of studying abroad on social mobility in terms of early career income. However, the third study showed that students who studied abroad were slightly more likely to enroll in graduate school. This may mean that studying abroad likely does have an indirect effect on income but only at later career stages.

My studies indicate that studying abroad does not reproduce social inequality directly in terms of early career income but that it may do so indirectly through increased graduate school attendance. Based on the results of the three studies, I provide key recommendations for future research on study abroad. Moreover, I suggest ideas on how higher education institutions and their international offices can develop policies that address disparities in study abroad opportunities. In doing so, higher education can work towards a more equitable system in which all students have the opportunity to gain international and intercultural experiences that help them and those around them flourish.

SAMENVATTING

STUDY ABROAD, INEQUALITY, AND THE INFLUENCE ON CAREERS
AND EDUCATION: ARE SOME HORIZONS BROADER THAN OTHERS?

FEBRUARY 2020

SUZAN KOMMERS, B.S., UTRECHT UNIVERSITY

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Directed by: Professor Ryan Wells

Studeren in het buitenland is één van de voornaamste manieren waarop studenten internationale ervaring op doen binnen hun studie. Buitenlandervaring wordt veelal besproken in termen van de positieve effecten op leren en ontwikkeling. Dit proefschrift laat zien dat studeren in het buitenland niet alleen positieve effecten met zich mee brengt. Op basis van data over bachelor studenten in de Verenigde Staten heb ik onderzocht 1) welke studenten in de V.S. verminderd kans hebben op het studeren in het buitenland en hoe dit van invloed is op 2) inkomen en 3) het al dan niet volgen van een vervolgopleiding. De combinatie van deze drie studies schetst een beeld van hoe studeren in het buitenland zich verhoudt tot sociaaleconomische status en hoe deze ervaring sociaaleconomische ongelijkheid dreigt te vergroten.

De eerste studie liet zien dat er aanzienlijke verschillen zijn in de mogelijkheden die studenten hebben om in het buitenland te studeren. Eerste-generatie-studenten, studenten uit families met een laag inkomen, studenten van kleur en studenten die op het platteland zijn opgegroeid gingen minder vaak voor een deel van hun studie naar het

buitenland. Het tweede onderzoek toont aan dat de buitenland ervaring niet in een hoger inkomen resulteerde gedurende de eerste vier jaar na het behalen van de bachelor. Dit betekent dat de kansenongelijkheid voor het studeren in het buitenland niet direct leidt tot sociale ongelijkheid wat betreft inkomen aan het begin van de carrière. De derde studie laat echter zien dat studenten die in het buitenland hebben gestudeerd vaker in vervolgonderwijs terecht komen. Dit zou kunnen betekenen dat studeren in het buitenland wel degelijk effect heeft op de sociale mobiliteit van studenten maar dat dit pas te merkbaar wordt in een later stadium in hun carrière.

De bevindingen in dit proefschrift laten zien dat studeren in het buitenland niet direct leidt tot carrièrevoordeel, maar dat het wellicht op lange termijn sociale ongelijkheid vergroot. Op basis van mijn bevindingen doe ik aanbevelingen voor vervolgonderzoek naar studeren in het buitenland. Verder onderzoek zou moeten uitwijzen in welke mate bevindingen in dit proefschrift van toepassing zijn op de situatie in Nederland. Daarnaast presenteer ik een aantal ideeën over hoe hoger onderwijsinstanties en hun international offices beleid kunnen laten ontwikkelen om kansenongelijkheid in het opdoen van buitenland ervaring te verkleinen. Op deze manier kan er gewerkt worden aan een onderwijssysteem waarin studenten gelijke kansen krijgen om de internationale- en interculturele vaardigheden te ontwikkelen die nodig zijn om succesvol te kunnen zijn op de arbeidsmarkt.

PREFACE

*Live as if you were to die tomorrow.
Learn as if you were to live forever.*
– Mahatma Ghandi

My parents raised me and my sister with one main goal in mind: to show us that around the world, people, while different in many ways, are also just like us – and soon to be our friends. From a young age, I experienced that despite different languages, habits, beliefs and political opinions, our cultural differences need not stand in the way of connection. These early experiences convinced me of the value of intercultural encounters and inspired me to learn more about how education can encourage such learning. I could have had no idea that, one day, I would live in a foreign country to do a Ph.D. having the opportunity to study the effect of study abroad. Moreover, little did I know that living in the U.S. would change my perspectives in such a way that I would never see education in the same way again.

Learning about the U.S, its history, its culture, and its educational system, I became aware of the extremely privileged position I have been in. I have been privileged by having the freedom and the resources to travel by having a dad who went to great lengths to make sure his family could join him in his travels for work. I have been privileged by having a mom who took on the task of teacher so my sister and I could be away from school for longer periods at a time. Moreover, I have been privileged because of the people I have met along the way that helped me to understand their perspectives and beliefs. The people I have met over the past five years who have put in the effort to explain the American educational system, have helped me particularly in understanding

how education is working for some while not for others. I am entirely grateful to people who trusted my good intentions and, despite their own efforts of getting to where they wanted to be, took the time to explain their journey to me. Understanding these perspectives inspired me to think about to whom international learning experiences are accessible to and who is missing out. I hope that with this dissertation I can contribute to a fairer and richer education.

Suzan Kommers

North Brookfield, MA
October 28th, 2019

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CHAPTER I

INTRODUCTION

As jobs internationalize, intercultural competencies become increasingly important to enable people to flourish in their work (Farrugia & Sanger, 2017). Education plays a fundamental role in preparing young people for an internationalized future by providing them the opportunity to gain international and intercultural experiences and develop intercultural competencies. Students are currently provided with the opportunity to gain international and intercultural experiences is through study abroad programs (Paige, Fry, Stallman, Josić, & Jon, 2009; Take & Shoraku, 2018). By doing a part of the undergraduate degree in a foreign country, students ideally learn to participate in culturally heterogeneous spaces and communicate effectively and appropriately in intercultural situations (Lokkesmoe, Kuchinke, & Ardichvili, 2016; Pedersen, 2010; Peng, Dyne, & Oh, 2015; Salisbury, An, & Pascarella, 2013; Williams, 2005). This, in turn, would make students more successful in their later careers. Indeed, it has been shown that study abroad has great potential for learning, for example in terms of intercultural competency development and career success (Teichler & Janson, 2007; Waibel, Rüger, Ette, & Sauer, 2017; Wiers-Jenssen & Try, 2005).

While study abroad can be an enriching experience on many levels, it can be questioned in terms of quality of the learning experiences and accessibility. Study abroad has become increasingly commercialized as institutions sell programs as a packaged experience, including housing, trips, and excursions (Bolen, 2001). Universities outsource study abroad to third-party vendors and private businesses, often promoting the tourism element over the educational purpose (Pipitone, 2018). Glossy posters of exotic

locations try to convince students to study abroad, encounter new people, places, and languages at a destination of their choice. However, study abroad can come with great financial costs. Third-party vendors advertise the idea that study abroad is beneficial to students' future careers, justifying students' financial contributions for participating in a study abroad program as an investment in future success. Correspondingly, students expect that going abroad leads to higher job income (Miller, Rocconi, & Dumford, 2018). However, the commercialization of study abroad raises the question of to what extent such learning experiences actually result in global learning, and, in turn better career outcomes.

With the growing emphasis on the importance of gaining international experiences for students' labor market success, there is a growing need to empirically investigate the effect of study abroad on students' educational and career outcomes (Salisbury et al., 2013; Waibel et al., 2017). Higher education is already expensive and study abroad requires a significant extra financial investment from students and therefore, students should not have to make a leap of faith that is premised on the vague idea of success in the job market (Streitwieser & Light, 2014). Without research showing the effect of study abroad on students' careers, language describing study abroad in terms of return on investment can be misleading.

In addition to the question of whether study abroad results in the assumed career outcomes, study abroad is problematic from an equity standpoint. Even though study abroad programs have become increasingly accessible, there are still groups of students that systematically miss out on the opportunity to go abroad (Dessoff, 2006). Developments in research and policy on U.S. study abroad provide important context for

understanding the opportunities and outcomes. Therefore, I review how commercialization has changed the purpose of study abroad from an educational experience into a way to gain social mobility. Moreover, to better understand the root of inequities in study abroad, I review the regulations on internationalization and study abroad in the U.S. higher education system.

From Educational Experience to Gateway to Social Mobility

Study abroad was historically described as an educational experience that would address global issues by making students more aware of their global responsibility and ways they could contribute to a more just world (Reilly & Senders, 2009). Currently, one of the main aims of national policies for study abroad is to provide students with new skills and knowledge that can be applied in the workforce (Helms, Brajkovic, & Rumbley, 2016). One way in which study abroad is linked to social mobility is through its direct effect on job income (e.g. DeGraaf, Slagter, Larsen, & Ditta, 2013; Waibel, Petzold, & Rüger, 2019; Waibel et al., 2017). Correspondingly, study abroad has been marketed as a way for students to gain a competitive edge in the job market (Bolen, 2001). Students reported that earning a higher salary was a key motivating factor for them to study abroad (Punteney, 2016). As the number of students attaining a bachelors' degree has expanded rapidly, students have tried to find ways to distinguish themselves through the educational experiences they gained during their undergraduate education. Study abroad is perceived as such an experience, giving students a competitive edge on the job market, potentially providing a gateway to social mobility (Bolen, 2001).

A second way in which study abroad is suggested to relate to students' career success is indirectly through its impact on graduate school enrollment. As industries

globalize and technologies advance, more jobs require a master's degree (Legg, 2014; Wendler et al., 2010). Moreover, a growing part of the U.S. population now obtains a bachelor's degree (National Center for Education Statistics, 2018), making the attendance of an additional degree a way for students to distinguish themselves on the job market. There is some initial evidence that study abroad makes students more inclined to enroll in graduate school (Dwyer, 2004; Dwyer & Peters, 2004; Mohajeri Norris & Gillespie, 2009; Paige et al., 2009). An educational experience like study abroad might thereby make students more likely to attend graduate school, resulting in a career advantage.

The outcomes of graduate school enrollment and career success are strong benefits of the study abroad experience, while at the same time such outcomes can be problematic. Because students do not have equal opportunities to participate in study abroad, better educational opportunities resulting from it would mean study abroad creates inequitable chances for upward social mobility. The inequalities in study abroad opportunities become apparent upon reviewing the federal policies on study abroad, which show that some students – primarily already disadvantaged students – miss out on the learning and career advantages.

Federal Policies on Study Abroad

The lack of a strategic approach in the regulation and organization of outgoing student mobility in the U.S. and the limited resources allocated by institutions means that the funding of study abroad relies mostly on students' financial resources. Higher education policy in the U.S. has strong roots in individual campus policies (Ruther, 2014). The U.S. Department of Education has had very little involvement with the internationalization of U.S. campuses and is limited to providing student aid, supporting

research and policy in relation to national importance (Ruther, 2014; Trilokekar, 2015). Of the internationalization policies that have been implemented (e.g. the National Defense Education Act of 1958 and the Title VI program after 1980), resources have mostly focused on attracting revenue-generating international students from abroad to attend U.S. institutions. The lack of federal funding for study abroad resulted in a lack of a strategic approach in the regulation and organization of outgoing student mobility (de Wit, 2002). Moreover, higher education institutions have promoted study abroad and internationalization in their mission and vision statements but did not translate this vision into equivalent federal funding (Ruther, 2014). The extra expenses required from students at most institutions creates a heavy financial burden on the student, which in many cases, makes study abroad unaffordable. This subsequently creates large disparities in study abroad opportunities.

Studying abroad requires financial, social and cultural resources, which makes it harder for some students to participate than others (Dessoff, 2006; Lörz, Netz, & Quast, 2016; Salisbury, Paulsen, & Pascarella, 2011). Limited financial resources for low-income students is a practical reason for students not to study abroad as well as a reason for students to consider the option to study abroad less often (Perna et al., 2014; Sánchez, Fornerino, & Zhang, 2006). Moreover, students for whom study abroad is not the norm aspire to go abroad less than students who consider such experience as common (Lörz et al., 2016). The Department of Education and NAFSA, the world's largest nonprofit association dedicated to international education and exchange, has been pushing for study abroad policies that are inclusive of students from disadvantaged groups (U.S. Department of Education, 2012).

This disparity in opportunities of studying abroad does not only mean that students are shut out of key learning and career experiences. With study abroad being increasingly perceived as a way to gain social mobility, inequitable opportunities to study abroad can, in turn, create inequity in later outcomes, such as graduate school attendance or job income. Conversations about study abroad have mainly focused on study abroad in response to the demands of changing economic and occupational structures. However, to fully address the development of the higher education system in the U.S., there needs to be a better understanding of the inequity in educational and occupational outcomes of study abroad and how such inequities might make study abroad a reproducer of social inequality. Only by critically evaluating the effect of study abroad on career success and acknowledging how it potentially reinforce social stratification, can research work towards finding ways to make internationalization practices like study abroad more effective and more socially just (George Mwangi et al., 2018).

Data: The Baccalaureate and Beyond Longitudinal Study

To better understand the role study abroad plays in the production and reproduction of social inequalities, international student mobility should be examined in terms of inequity in opportunities as well as in terms of the possible outcomes (Bilecen & van Mol, 2017). The Baccalaureate and Beyond Longitudinal Study (B&B:08/12) is a dataset collected by the National Center for Education Statistics (NCES) and provides a longitudinal study of students' education and work experiences (Cominole, Shepherd, Siegel, & Socha, 2015). The first data wave, collected in students' final year of their undergraduate education in 2008, asked students if they have studied abroad by the end of their final year in college. The second and third follow-up interviews, collected in

2009 and 2012, consisted of information on students' post-baccalaureate education and post-baccalaureate employment. The B&B:08/12 is the most recent nationally representative data available that allows for the investigation of the relationship between study abroad and job income as well as graduate school enrollment, up to four years after graduation. Moreover, the B&B:08/12 gathered extensive information on bachelor's degree respondents' demographic backgrounds, potentially allowing a clear understanding of the disparities in study abroad participation.

The disparities in study abroad opportunities present challenges when measuring the effect of study abroad on students' educational and career outcomes. The factors impacting students' probability to study abroad are generally also related to graduate school enrollment (Zhang, 2005) and career outcomes (Ng, Eby, Sorensen, & Feldman, 2005). Without correcting for the confounding factors in the research design, the supposed "effect" of study abroad might very well be due to the types of students who are more likely to go abroad (Caliendo & Kopeinig, 2008). Therefore, it is important to use data that allows scholars to use research methods that take students' demographics and college experiences into account when examining the effects of study abroad on student outcomes. As the B&B dataset captured a wide array of respondents' background variables, using this data allows me to correct for disparities in study abroad opportunities in the research design.

Purpose of this Dissertation

In this dissertation, I used the B&B:08/12 to answer the overarching question:
How does study abroad participation of students in the U.S. contribute to the

reproduction of social inequality? Figure 1 visualizes the three studies that together will provide a better insight into this research question.

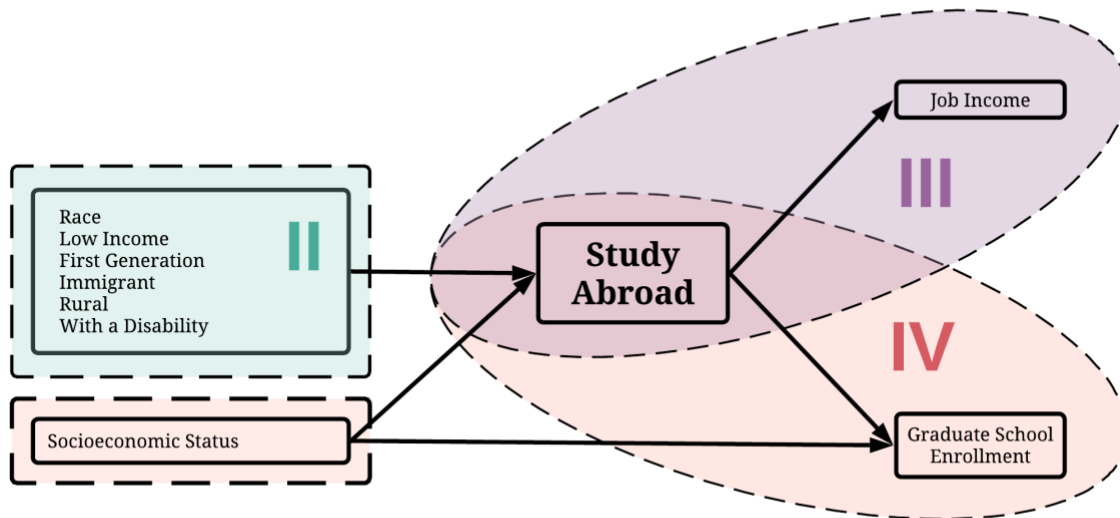


Figure 1. Overarching conceptual framework of the chapters.

In chapter II, I investigate disparities in study abroad participation by examining the probability of participation in study abroad for six groups of students who are known to be underrepresented in higher education: students of color, low-income students, first-generation students, immigrant students, students from rural locations, and students who have a disability. By examining whether students in these specific groups have a lower probability of studying abroad compared to other students, this study adds to our existing knowledge on study abroad opportunities in three ways. First, rural students and students with disabilities are rarely studied in relation to study abroad opportunities. Second, by examining the multiple groups simultaneously, this study provides a better insight into

the unique effects of each group characteristic. Third, predicted probabilities provide more insight into the relative importance of the six groups in predicting study abroad participation and show the magnitude of the disparities between students in these six groups and other students. This study shows that, compared to other students, first generation, rural students, and students of color have a significantly lower probability to have studied abroad, which should be taken into account when examining the impact of study abroad on later outcomes.

In chapter III, I examine how study abroad affects job income, taking into account the disparities in study abroad opportunities as shown in chapter II. Specifically, I used propensity score analysis to correct not only for factors impacting the outcome (job income) but also for factors that impact the likelihood of students going abroad. This method creates a better understanding of the effect of studying abroad on income when properly correcting for the inequitable opportunities for students to participate in study abroad. Surprisingly, the data showed no indication of study abroad impacting job income, four years after students graduated from their undergraduate degree. This chapter leads to a discussion on whether study abroad is as beneficial to students' early career income as has been assumed previously and emphasizes the need to gain a more nuanced understanding of how study abroad impacts students' careers. Moreover, it raises the question of whether study abroad might impact students' careers more indirectly through educational opportunities like graduate school attendance.

In chapter IV, I elaborate on the potential of study abroad on students' careers by examining the effect of study abroad on graduate school enrollment. The results in this chapter indeed show that students who studied abroad were significantly more likely to

enroll in graduate school. While not having a direct effect on income, study abroad thereby possibly has a more indirect effect by providing students with educational opportunities that lead to social mobility later on. Moreover, this study investigates a mediation model that tests to what extent the relationship between study abroad and graduate school enrollment explains why students of high socioeconomic status (SES) enroll in graduate school more often. This mediation model shows that study abroad partly mediates the effect of SES on graduate school enrollment but that this effect becomes insignificant when controlling for students' demographics and college experiences. While study abroad is related to enrollment into graduate school, study abroad is a relatively small factor in how social inequality gets reproduced.

By linking together the inequities in study abroad opportunities and the effect of study abroad on educational and career outcomes, the three studies combined provide a more holistic understanding of study abroad and its role in the reproduction of societal inequities within the U.S. society. Specifically, I provide a better sense of how the educational practice of study abroad systematically disadvantages certain groups of students, in part based on how study abroad impacts students' educational and professional careers. The insights from this dissertation research resulted in recommendations for policymakers at the federal level and administrators at higher education institutions on how to make study abroad more effective and equitable. Students of underrepresented populations should be better informed about the opportunities to study abroad, the potential benefits and costs involved. Moreover, this dissertation will highlight the potential of providing alternatives to study abroad so that all students can be given the opportunities to explore their graduate school aspirations.

In addition to providing implications for policy and practice, this dissertation study indicates how research on internationalization in higher education should be mindful of systematic inequities and how these inequities manifest through educational practices like study abroad. Moreover, research suggestions will indicate what future research can do to take steps and take action towards reducing inequities in study abroad opportunities. For example, research should consider more long-term outcomes of study abroad by taking into account the indirect ways through which study abroad impacts students' careers. Not only will this show us if the assumption that study abroad is beneficial to careers is true, it will also show how the students who have the privilege to study abroad reap the benefits from their experience in their later careers by becoming more educated and thereby potentially disadvantaging students who do not have the opportunity to study abroad.

CHAPTER II

GLOBAL LEARNING FOR EVERYONE? DISPARITIES IN STUDY ABROAD PARTICIPATION FOR FIRST GENERATION, LOW-INCOME, RURAL STUDENTS AND STUDENTS OF COLOR.

Various studies have shown that students do not have equal opportunities when it comes to studying abroad. While previous studies have revealed social and financial factors that affect study abroad participation, there is a need for extending the scope of analysis. Using some of the most recent nationally representative data on college graduates in the U.S., I investigated six underrepresented populations – students of color, low-income students, first-generation students, immigrant students, students from rural backgrounds, and students who have a disability – and the disparities they experience in study abroad participation compared to other students. Results show that low-income and first-generation students, students of color and rural students study abroad less often than their peers. When correcting for students' demographics and college experiences, being a first-generation student, of color and of rural background are significant predictors of study abroad participation. These results show that besides students' financial situations, students' social and cultural backgrounds should be taken into account when supporting students in their efforts to gain international experiences.

Keywords: study abroad, inequity, predicted probabilities

International and intercultural experiences are essential for students to develop competencies to flourish in internationalized living, learning and working environments, and to meet the challenges of a globally shared space (Deardorff, 2006; Held & McGrew,

2007). Spending a part of one's education in a foreign country is one of the main ways in which young people engage in global learning. While study abroad has become increasingly accessible, it is still only available to a small part of the student population (Dessoiff, 2006; NAFSA: Association of International Educators, 2018). Students who cannot study abroad are not only denied essential forms of learning but are also potentially disadvantaged in their later careers (DeGraaf et al., 2013; Teichler & Janson, 2007; Waibel et al., 2017). Over the past two decades, the U.S. federal government has acknowledged the inequity in students' opportunity to participate in study abroad, emphasizing the importance of providing all students with the opportunity to develop international, global and intercultural competencies (U.S. Department of Education, 2012). However, to effectively do this, more insight is needed into which students study abroad and which factors affect study abroad opportunities.

Previous studies on study abroad opportunities have mostly examined students' financial and social backgrounds in relation to their study abroad participation. By only taking into account a narrow set of factors involved in the decision to study abroad cannot fully capture the complexity of inequities in study abroad opportunities for specific subgroups of students (Bilecen & van Mol, 2017). Moreover, research on equity in higher education mostly takes into consideration traditional categories of underrepresented groups of students such as first-generation and low-income students and students of color. I extend the scope of research on disparities in study abroad opportunities by considering six underrepresented groups in higher education: students of color, low-income students, first-generation students, immigrant students, students from rural backgrounds, and students who have a disability.

Research on educational opportunities increasingly acknowledges the extra hurdles rural students and students with disabilities face in attending and transitioning into college (Byun, Meece, & Irvin, 2012; Kimball, Wells, Ostiguy, Manly, & Lauterbach, 2016; Mamiseishvili & Koch, 2011; Provasnik et al., 2007; Wells, Manly, Kommers & Kimball, 2019). While these students enroll in greater numbers at colleges and universities now than in the past (Provasnik et al., 2007; Snyder, de Brey, & Dillow, 2019), they are still vastly underrepresented in higher education. In order to work toward greater equity and inclusion in higher education more insight is needed into what specific challenges rural students and students with disabilities experience in fully participating in college life (Byun et al., 2012; Kimball et al., 2016). While there is an increasing awareness of the disproportionate challenges students with disabilities and rural students' experience in attending and transitioning into college, not much is yet known about these students' opportunities to study abroad.

In this study, I use U.S. nationally representative data to examine the probability of studying abroad for students of color, low-income students, first-generation students, immigrant students, students from rural locations, and students who have a disability. For these six groups of underrepresented students, I investigate whether these groups of students participate in study abroad less often, as well as how large the disparities are compared to their peers. These results help identify the groups that need to be paid the most attention to when making study abroad more inclusive. I am to answer the following research questions:

1. To what extent do students of color, low-income students, first-generation students, immigrant students, students from rural locations, and students who

have a disability, have a lower probability to study abroad compared to other students?

2. When considered simultaneously, which of these demographic characteristics are most salient to participation in study abroad?

Literature Review

When evaluating study abroad opportunities, it is essential to consider the policies and strategies that have been adopted at the university level (Rumley & Altbach, 2016). A review of the literature shows that U.S. policies on regulation, funding and organization of study abroad disadvantage certain students. First, I review how U.S. policies resulted in a lack of financial resources to support study abroad. Second, I discuss what factors are involved in study abroad participation, specifically for students of color, low-income students, first-generation students, immigrant students, students from rural locations, and for students who have a disability.

Policies on Study Abroad in the U.S.

Historically, internationalization of U.S. campuses has strong roots in individual campus policies (Ruther, 2014). Until this day, the role of the Department of Education in regulating outgoing student mobility is limited, placing the responsibility for policies on study abroad and related affairs mainly with the individual institutions (Ruther, 2014; Trilokekar, 2015). Because of the absence of federal regulations, the ways in which U.S. colleges and universities manage and fund study abroad vary considerably. Study abroad policies set by colleges and universities include the types of study abroad programs, policies for awarding academic credit, structuring of study-abroad program fees, systems for funding the study-abroad office, program evaluation methods, and other areas of

program management (Whalen, 2015). Consequently, well-funded private institutions have more resources to financially support students, making study abroad more accessible to students at those institutions than to students at public universities. Apart from the disparities between higher education institutions, the lack of federal regulation and funding creates inequities between students within the institutions. Especially at institutions with few resources, students compete for limited grants available to support study abroad. The link between the minimal regulation and inequities in study abroad opportunities becomes evident upon comparing the U.S. to study abroad in Europe. There, the Erasmus program provides some financial support to all students that go abroad via an exchange program (de Wit, 2002). Because this financing is regulated by the E.U. and not by individual institutions, the support for students is not dependent on the resources of the institution the student attends, thereby creating fewer inequities in study abroad opportunities (Petzold & Peter, 2015).

While limited, there have been some U.S. federal study abroad initiatives. However, the sparse initiatives that specifically target U.S. outgoing student mobility were underfunded and did not align well with the operational structures of the higher education institutions (Ruther, 2014). Moreover, while some initiatives increased the number of students going abroad, these did not result in an increase in study abroad participation rates among traditionally underrepresented groups (Stroud, 2010). In short, the lack of a strategic approach in the regulation and organization of outgoing student mobility in the U.S. has resulted in a lack of opportunities to handle the need for students to gain international experiences. As a result, study abroad efforts mostly rely on

students' individual financial, social and cultural resources, creating inequities in the opportunity to participate in study abroad programs.

Inequity in Study Abroad Participation

Research on study abroad opportunities have mostly focused on students' financial resources, social backgrounds and cultural environments (Bilecen & van Mol, 2017; Lörz et al., 2016; Salisbury et al., 2011; Salisbury, Umbach, Paulsen, & Pascarella, 2009). While financial, social and cultural resources impact students' decisions to study abroad on an individual level, these factors also influence each other. For example, students who limited few financial resources were more sensitive to whether the expected benefits would exceed the costs (Perna et al., 2014; Sánchez et al., 2006) and had lower expectations from studying abroad (Lörz et al., 2016). Moreover, there is more to students' decisions to study abroad than social and financial resources such as feelings of being out of place or the fear of stereotype threat while being abroad (Salisbury et al., 2011). This highlights the complexity of factors impacting study abroad participation and the importance of examining specific underrepresented groups and the complexities of their unique situations.

Students of color. Students of color are underrepresented in higher education in general, and even more in study abroad participation (Dessoiff, 2006). The disparity between students of color and white students is visible as early as asking students about their intent to go abroad (Salisbury et al., 2011, 2009). Compared to white students, students of color were affected differently by similar social and financial factors in their aspirations for studying abroad. For example, having a large loan did not impact the likelihood to develop a study abroad intent for white students but negatively affected

Hispanic students (Salisbury et al., 2011). Moreover, receiving a federal grant increased study abroad aspirations for white students but did not for African American and Asian students. A suggested reason for why students of color did not experience an increase in study abroad intent when financial resources increased was found in the fact that these students may be avoiding situations where they encounter stereotype threat. As study abroad is still mostly populated by white students, students of color may be made to feel like they do not belong to the group of students participating in study abroad. The fear of stereotype threat for students of color is confirmed by research on students' considerations to study abroad in which they describe a fear of racism and discrimination (Brux & Fry, 2010). Black students' experiences with racism in the United States made them concerned about their well-being abroad, especially when thinking about studying in European countries (Brux & Fry, 2010). This makes students of color less likely to develop a study abroad intent, regardless of their social and financial situation (Salisbury et al., 2011).

Low-income students. Studying abroad generally requires direct expenses (e.g. travel, visa fees, and extra costs for housing and other living expenses) and indirect costs, such as not being able to work when being abroad. While these costs apply to all students who go abroad, they impact low-income students more. The financial situation of low-income students has been shown to determine students' ability to study abroad as well as their aspirations and intent to go abroad. Students who have limited financial resources are more concerned about whether the expected benefits of study abroad outweigh the costs (Perna et al., 2014; Sánchez et al., 2006). This means that students from low-income families are impacted more by the expenses that studying abroad entails when

deciding whether to study abroad (Perna et al., 2014; Sánchez et al., 2006). Low-income students also had lower expectations from studying abroad compared to students who had more financial resources (Lörz et al., 2016). These combined experiences make low-income students considerably less likely to go abroad.

First generation students. Students of whom neither parent went to college do not benefit from their parents' experiences and understanding of the college system, both prior to enrolling in and during college. As a result, students may be less aware of the opportunities and benefits of doing a part of their studies abroad. The norm to study abroad has been described as the strongest predictor of the intention to do so (Lörz et al., 2016). Moreover, in an environment where study abroad is considered the norm, students expect stronger benefits of the study abroad experience for their future success on the labor market (Petzold & Peter, 2015). For first-generation students, going to college is generally not the norm, let alone studying abroad. Moreover, similar to low-income students, first generation students have lower expectations from study abroad compared to other students (Lörz et al., 2016). This makes first-generation students less likely to form a study abroad intention and, consequently, less likely to participate in study abroad.

Immigrant students. Considering that the aim of study abroad is to provide students with intercultural and international experiences, immigrant students are unique in the sense that they are often used to crossing cultural boundaries as a result of their migration history (Kommers & de Haan, in press). Research on the motivation of immigrant students to study abroad is not a well-developed research area, both conceptually and methodologically (Chirkov, Vansteenkiste, Tao, & Lynch, 2007). While immigrant students have more experience in navigating cultural boundaries, it is unclear

whether this makes these students more or less likely to participate in study abroad. Even though immigrant students may be more prepared to deal with the intercultural situations that present themselves abroad, these students often deal with immigration situations that make it harder, or even impossible to leave the country (Rodriguez & Cruz, 2009).

Consequently, immigrant students may be less likely to study abroad.

Students with disabilities. Students with disabilities have been shown to study abroad less often (Dessoff, 2006; Johnstone & Edwards, 2019). However, students with disabilities have not been researched sufficiently (Kimball et al., 2016), especially when it comes to study abroad participation. One of the few studies on perceived barriers to study abroad for students with disabilities showed that one of the main concerns of these students was the lack of information about available study abroad programs, lack of assistive services, and financial barriers (Matthews, Hameister, & Hosley, 1998). While this study was conducted over 20 years ago, more recent research on students with disabilities in higher education shows that these issues still apply to this group of students (Kimball et al., 2016).

As students with disabilities in many cases require accommodations, they are often unsure if they will have access to those abroad. Apart from the accommodations, students with disabilities reported being discouraged by others, feeling unwelcome, or experiencing the physical environment as reasons for not participating in activities on campus (Fox, Hedayet, Mansour, Kommers, & Wells, in progress). The prospect of these difficulties is likely to lessen their desire to go abroad. Currently, higher education institutions in the U.S. are not prepared to support students with disabilities with the

services that would allow them to study abroad at similar rates as their peers (Johnstone & Edwards, 2019).

Rural students. Students from rural areas are an even less researched subpopulation of students in relation to study abroad are. Especially after the U.S. 2016 elections, there has been a national conversation about the relationship between rurality, college education and social class (Brown & Fischer, 2017; Monkovic, 2016). Previous studies have shown that rural students have different educational pathways compared to non-rural students (Barcus & Brunn, 2010; Roscigno, Tomaskovic-Devey, & Crowley, 2006). While more attention is paid to examining rural students' general college experiences (e.g. Byun et al., 2012; Koricich, 2013), not much is known about how rural students might differ in terms of study abroad participation. Despite inconclusive evidence, there are some indications that rural students are less likely to go abroad.

Rural areas in the U.S. can be 'educational deserts' having no more than one community college within reasonable commuting distance. As a result, rural students often need to travel far to attend college (Hillman, 2016). This means that rural students often live far away from their home communities. Considering that students already had to move for college, they may prefer, or may even be expected, to invest more time in remaining connected to their home community, rather than going abroad. This notion, combined with rural students experiencing a stronger connection to their home community than their nonrural peers (Byun et al., 2012; Petrin, Farmer, Meece, & Byun, 2011) and may make rural students less eager to study in a foreign country.

Describing these different groups of students shows that apart from students' financial situation, their social and cultural environment factor into their aspirations and

opportunities to study abroad. For many students, going to college can be a cultural transition in itself and might already feel like an abroad experience. Moreover, literature shows that students from these six groups may have very different concerns than their peers when thinking about doing a part of their study in a foreign country. In order for higher education to support these students in the increasing need for global learning, these specific groups should be paid attention to when researching study abroad opportunities.

Other Determinants of Study Abroad Participation

Previous studies have indicated that, apart from the six student characteristics described above, demographics and college experiences play a role in students' study abroad participation. Women are more likely to develop the intent to study abroad (Luo & Jamieson-Drake, 2014) and students who studied abroad generally had higher GPAs than their peers (Ingraham & Peterson, 2004; Kurt, Olitsky, & Geis, 2013). Also, students' flexibility in their program may impact their opportunities to take courses in a foreign country. Students in science, technology, engineering or math (STEM) majors often have less flexibility in their required curriculum. For them, finding a semester's worth of courses at a university abroad that meet the requirements of the home university can be challenging, making it more difficult to incorporate a semester abroad in their studies (Luo & Jamieson-Drake, 2014; Niehaus & Inkelas, 2016; Salisbury et al., 2009). The same issue of limited flexibility applies to transfer students as they often need to comply with strict course requirements to graduate in time (Quaye & Harper, 2014).

Another important factor in students' study abroad aspirations and participation is the phase in life students are in. Non-traditional students who are older, with families or

full-time employed, are frequently unable to go abroad for half a year because of other responsibilities (Peppas, 2003). Traditional students, on the other hand, enrolled into college within a couple of years after graduating high school and often live on campus. Consequently, these students tend to have fewer family responsibilities and hold more social expectations of their college experience (Adams & Corbett, 2010). This may make traditional students more likely to participate in study abroad programs than non-traditional students. These factors should be taken into account when examining how students of the six underrepresented groups differ in their probability of studying abroad.

Methods

In this study, I used the Baccalaureate and Beyond Longitudinal Study (B&B:08/12) to examine to what extent students of color, low-income students, first-generation students, immigrant students, students from rural locations, and students who have a disability participated in study abroad less frequently than their peers. Moreover, I used these data to investigate how large the disparities in study abroad participation were between the six groups to see which of these identities were most salient when predicting students' study abroad participation. In the following section, I discuss the data source, sample, the variables included and the data analyses used in the study.

Data Source

The Baccalaureate and Beyond Longitudinal Study (B&B:08/12) is a dataset collected by the National Center for Education Statistics (NCES). The dataset surveyed a representative sample of graduating seniors in all majors who completed requirements for a bachelor's degree in the academic year 2007-08 (Cominole et al., 2015). The data provide extensive information on students' demographics, college experiences, and

characteristics of the institution from which they completed their bachelor's degree. It also includes information about students' college experiences.

Variables

Dependent variable. The dependent variable, participation in study abroad, was measured in the final year of students' undergraduate degree (2007-08), asking whether students had studied abroad. An additional indicator specified the duration of time spent abroad. Because the duration of the study abroad plays a role in students' experience abroad and the accessibility of the experience (Dwyer, 2004), only students who studied abroad for more than four weeks were considered as having had a study abroad experience for the purpose of this analysis.

Independent variables of interest. The independent six variables of interest indicated if students were of color, low-income, first-generation, immigrant, from rural locations, or if they had a disability. Students of color were considered those who identified as Asian, Black/African American, Hispanic/Latino, American Indian, Alaska Native, Native Hawaiian or other Pacific Islander and those who identified as other or more than one race. The low-income category was based on the total 2006 income of the parents of dependent respondents or on the income of financially independent respondents. Low-income was defined as an annual income of less than \$25,000 and corresponds with the cut-off point for the federal TRIO programs by the U.S. Department of Education. First-generation students were defined as those for whom neither parent had a bachelor's degree. Immigrant students were considered those who immigrated to the U.S. or those for whom one or both parents are foreign-born. Rurality of the student was based on the best-known address after the NPSAS:08 data collection. Students who

reported they lived in a rural area, or a remote town at least 35 miles from an urbanized area, were considered rural. Students with disabilities were considered those who indicated having a hearing, visual, speech, language, mobility or health impairment, or students who indicated suffering from depression, developmental disability or brain injury.

Covariates. Covariates were included in the regression models to correct for factors impacting study abroad participation other than the variable defining the aforementioned six groups. While this study cannot completely isolate the relationships between the independent variables of interest and the outcome, covariates help to get a better sense of the unique effect of being part of one of these six groups on the probability of studying abroad. The covariates included variables on students' demographics, including age and gender, as well as students' college experiences. College experience covariates consisted of variables indicating students' cumulative undergraduate grade point average (GPA) as of 2007-08, and whether the students majored in STEM. The STEM classification was based on the 2010 Classification of Instructional Programs (CIP). College characteristics indicated if students transferred from another institution, if they lived on campus, and if they were enrolled full-time or delayed enrolled. Moreover, analysis corrected for whether the institution that the student attended was public and selective. The selectivity measure was based on whether the institution was open admission (no minimal requirements), the number of applicants, the number of students admitted and the 25th and 75th percentiles of ACT and SAT scores. The variable public/non-public indicated the control of the respondent's 2007-08 bachelor's degree-granting institution.

Data Analyses

The analysis consisted of three main steps. First, I utilized descriptive statistics to gain an understanding of the students in the sample, specifically the students who studied abroad and those who did not. Means and standard deviations were provided for all the variables used in the study. Second, mean comparison tests were conducted, providing a first indication of the extent to which students who went abroad differed significantly from those who did not. Specifically, the two groups were compared on the percentage of students of color, low-income students, first-generation students, immigrant students, students from rural locations, and students who have a disability. Furthermore, the two groups were compared in terms of their college experiences. T-tests were used for the continuous variables and Chi-Squared tests for the dichotomous variables.

In the third step, a logistic regression analysis was conducted to see which variables were significant predictors of study abroad participation. The regression model provided a sense of whether the six groups significantly predicted study abroad participation when correcting for students' other demographics and college experiences. In addition to the odds ratios, average marginal effects were reported as outcome measures, allowing for a more intuitive interpretation of the regression results (Long & Freese, 2014; Mitchell & Chen, 2005). Apart from being easier to interpret, the average marginal effects are standardized, meaning that predictors can be compared in terms of their strength (Long & Freese, 2014). Group differences were presented in a graph visualizing the average probability of studying abroad for students in each group on a scale from 0 to 1 (Long & Freese, 2014). This provided a better understanding of the magnitude of differences in probability between students of color, low-income students,

first-generation students, immigrant students, students from rural locations, students who have a disability and their peers.

Sample, Complex Survey Design and Missing Data

The B&B:08/12 data collection followed a complex sampling strategy. Therefore, all analyses were weighted following the standards from NCES. By doing the analyses according to NCES standards, I accounted for oversampling and some nonresponse (Heeringa, West, & Berglund, 2017). An analysis weight was used, including the 14,560 respondents who had a completed, partial, or abbreviated interview in 2009 (Cominole et al., 2015). As this study focused on bachelor's degree graduates, students who graduated from institutions offering two-year degrees or less were removed from the sample. Moreover, international students who did their bachelor's in the U.S. were removed from the sample as they were considered as already studying abroad. The resulting sample consisted of 14,440 respondents.¹

The percentage of missing values on the covariates were all under 1.3%, except for the variables indicating if a student was delayed enrolled (1.4% missing) and if the student studied abroad (1.8% missing). In the final sample of 14,440 cases, the overall rate of missingness was 5.0%. Analyses were conducted using complete case analysis, resulting in a final sample of 13,720 cases.

Results

Results of the descriptive statistics and mean comparisons provide an understanding of who studied abroad and who did not, and to what extent students of color, low-income students, first-generation students, immigrant students, students from

¹ All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license.

rural locations, and students who have a disability, study abroad less often compared to other students. Results on the logistic regression analysis allow for a better understanding of what student characteristics predict study abroad participation, answering research question one. The average marginal effects resulting from the regression analysis answer research question two, revealing which of these demographic characteristics are most salient to participation in study abroad when considered simultaneously.

Who Studied Abroad?

The descriptive results and mean comparisons provided in Table 1 show that students who studied abroad differed from those who did not in terms of their demographics and college experiences. Students who went abroad were less frequently of color (17%) compared to the students who did not go abroad (27%). Students who went abroad were less often low-income (14% compared to 25%) and first generation (23% compared to 47%). Rural students were also represented less in the group of students who studied abroad (20%) than in the group of students who did not go abroad (29%). No differences were found between students of immigrant and non-immigrant backgrounds, nor between students with and without disabilities, meaning that these students participated in study abroad at the same rate as other students. Apart from the underrepresented groups, students who studied abroad were more likely to be female (67% versus 57% of the non-study abroad group) and were, on average, younger compared to students who did not go abroad.

In terms of college experiences, students who went abroad were more often high-achieving, traditional students. Students who studied abroad had an average higher college GPA (337 versus 324), more frequently lived on campus (32% versus 18%) and

less frequently off campus or with parents. Students who went abroad were more often full-time (71% versus 60%) and less often delayed enrollment in college. Moreover, students who went abroad were less frequently enrolled in STEM (10% versus 16%) and transfer students (7% versus 22%). In terms of institutional characteristics, students who studied abroad were less often enrolled in public institutions (49% versus 64%) and more often at selective institutions (53%) compared to students who did not go abroad (27%).

Table 1. Means, standard errors and mean comparisons for all variables.

Variables	All Students (N=13,720)	Studied abroad (N=1,560)	Did not study abroad (N=12,160)	Diff.
Studied abroad	0.11 (0.01)	--	--	
Demographics				
Of color	0.26 (0.01)	0.17 (0.01)	0.27 (0.01)	-0.10**
Low-income	0.23 (0.01)	0.14 (0.01)	0.25 (0.01)	-0.11**
First generation	0.44 (0.01)	0.23 (0.02)	0.47 (0.01)	-0.24**
Immigrant	0.21 (0.01)	0.18 (0.02)	0.21 (0.01)	-0.03
Rural	0.28 (0.01)	0.20 (0.02)	0.29 (0.01)	-0.09**
With a disability	0.08 (0.00)	0.09 (0.01)	0.08 (0.00)	0.01
Female	0.58 (0.01)	0.67 (0.02)	0.57 (0.01)	0.10**
Age (standardized)	1.61 (0.02)	1.23 (0.02)	1.66 (0.02)	-0.43**
College experiences				
GPA	325.80 (0.99)	337.37 (2.66)	324.31 (0.99)	13.06**
STEM	0.15 (0.01)	0.10 (0.01)	0.16 (0.01)	-0.06**
Transfer	0.21 (0.01)	0.07 (0.01)	0.22 (0.01)	-0.15**
On campus	0.20 (0.01)	0.32 (0.02)	0.18 (0.01)	0.14**
Off campus	0.60 (0.01)	0.52 (0.02)	0.61 (0.01)	-0.09**

With parents	0.14 (0.01)	0.07 (0.01)	0.15 (0.01)	-0.08**
Full-time	0.61 (0.01)	0.71 (0.02)	0.60 (0.01)	0.11**
Delayed enrolled	0.08 (0.00)	0.02 (0.01)	0.09 (0.01)	-0.07**
Public	0.63 (0.01)	0.49 (0.03)	0.64 (0.01)	-0.15**
Selective	0.30 (0.02)	0.53 (0.03)	0.27 (0.02)	0.26**

Note. All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license. Significant differences between students who did and did not go abroad. ** $p < 0.001$, * $p < 0.01$, + $p < 0.05$ as determined using two-tailed tests. Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics.

Predictors of Study Abroad Participation

Binary logistic regression results allowed for a better understanding of the key predictors of study abroad participation. Table 2 presents the logistic regression output as odds ratios and as average marginal effects (AMEs) and shows which of the six student characteristics are significant predictors of study abroad participation while holding students' demographics and college experiences constant. AMEs are reported in addition to the odds ratios because these coefficients are comparable in their strength across predictors. AMEs can be interpreted as the change in the probability to study abroad, given a small change in the independent variables, or a one-unit change in dichotomous independent variables.

Except for being full-time and delayed enrolled, all covariates were found to be significant predictors of study abroad participation. Positive predictors of study abroad were being female, GPA and selectivity of the institution. Negative predictors of study abroad were age, being in a STEM major, being a transfer student, living off-campus or with parents, and attending a public institution. As becomes clear from the AMEs, factors most strongly related to a lower probability to study abroad were living with parents,

being in a STEM major and being a transfer student. Students living with parents had a probability of studying abroad 9 percentage points lower than students who did not live with their parents. Transfer students and students in a STEM major had a 6 percentage point lower probability of studying abroad compared to non-transfer and non-STEM students, respectively. Some of the factors that related strongly to a higher probability of studying abroad were attending a selective institution and being female. Students who attended a selective institution had a probability of studying abroad 7 percentage points higher than those who did not attend a selective institution. Female students had a probability of studying abroad 4 percentage points higher than male students.

The regression results show how belonging to an underrepresented group affects students' probability to study abroad when holding other demographics and college experiences constant. These results show that being a student of color, first generation, and from a rural background negatively related to study abroad participation. This indicates that the students in these three groups have a lower probability to study abroad, regardless of their demographics and college experiences included in the model. Even though low-income students studied abroad less often compared to other students (Table 1), low income status was not a predictor of study abroad participation when holding students' demographics and college experiences constant (Table 2). This indicates that part of the reason why low-income students go abroad less often has to do with other demographic characteristics or college experiences.

Table 2. Predictors of study abroad participation - logistic regression

Variables	Odds Ratios	Average Marginal Effects
Independent Variables		
Of color	-0.458** (0.130)	-0.041** (0.012)

Low-income	0.032 (0.120)	0.003 (0.011)
First generation	-0.662** (0.105)	-0.059** (0.010)
Immigrant	-0.041 (0.149)	-0.004 (0.013)
Rural	-0.400** (0.104)	-0.036** (0.009)
With disability	0.120 (0.149)	0.011 (0.013)
Covariates		
Female	0.414** (0.103)	0.037** (0.009)
Age	-0.616** (0.105)	-0.055** (0.010)
GPA	0.004* (0.001)	0.000* (0.000)
STEM	-0.665** (0.125)	-0.060** (0.011)
Transfer	-0.633** (0.166)	-0.057** (0.015)
On campus	-0.341+ (0.137)	-0.031+ (0.012)
Off campus	-0.471** (0.132)	-0.042** (0.012)
With parents	-0.951** (0.207)	-0.086** (0.019)
Full-time	0.068 (0.108)	0.006 (0.010)
Delayed enrolled	-0.521 (0.391)	-0.047 (0.035)
Public	-0.383** (0.107)	-0.034** (0.009)
Selective Institution	0.735** (0.114)	0.066** (0.011)
Observations	13,720	13,720

Note: Standard errors in parentheses. All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license. **p<0.001; *p<0.01; +p<0.05

Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics.

The average marginal effects presented in Table 2 show that students of color, first generation and rural students differed significantly from other students in the probability to study abroad, even when correcting for college experiences and other demographics.

Based on this regression model, probabilities to study abroad for students in the six groups were calculated.

Figure 2 presents the probability to have studied abroad for students in the six groups compared to students who were not part of this group. First generation students had a 6 percentage point lower probability of studying abroad than continuing generation students. Students of color and rural students had a probability of studying abroad 4 percentage points lower than white and non-rural students, respectively. Of the underrepresented groups, students with disabilities had the largest probability to study abroad, while first generation students had the smallest probability.

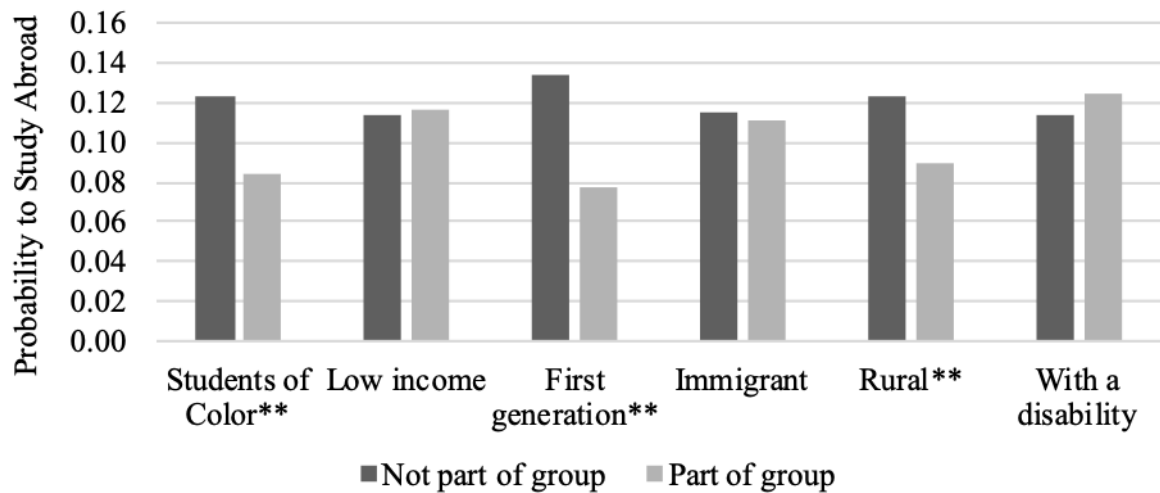


Figure 2. Probabilities to study abroad for students in six underrepresented groups in higher education.

Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics. ** $p < 0.001$; * $p < 0.01$; + $p < 0.05$

Discussion

The results of this study show that in the U.S., first generation and low-income students, students of color and rural students participate in study abroad less often. Being a first generation student was one of the strongest predictors of study abroad participation, followed by being a student of color and being a student of a rural background. These variables were found to be predictors of study abroad, even when correcting for differences in demographics and college experiences. This study adds to insights from previous research on which students are less likely to participate in study abroad by providing a better understanding of the magnitude of the disparities.

In previous studies, rural students had not yet been identified as a group of students who study abroad less often. The difference in probability between rural and non-rural students is 4 percentage points, similar to the difference in probability between students of color and white students. Part of why rural background is such a strong predictor of study abroad participation may be explained by a general feeling of attachment one's home community as often felt by rural students (Petrin et al., 2011). Hence, rural students may spend time and effort visiting home instead of going abroad. Moreover, many rural students already need to travel relatively far to attend college (Hillman, 2016), which potentially makes them less likely to aspire to study abroad. Rural students moving from rural areas to college often struggle with cultural differences between their rural home environment and college life (Armstrong & Hamilton, 2013). In some ways, their transition to college may be a cultural transition similar to the one experienced by students traveling to a different country. In order to better support rural

students' equal educational opportunities, future studies should further examine these students' aspirations and barriers to participate in study abroad.

The financial situation of the student is often mentioned as a limiting factor for their possibility to study abroad. The results of this study show that there is more to students' decision to participate in study abroad than their financial situation. Even though the descriptive statistics showed that low-income students studied abroad less often, low-income status was not a significant predictor of study abroad participation when correcting for covariates on students' demographics and college experiences. The fact that low-income students differed in their study abroad participation rates but not when correcting for demographics and college experiences shows that students' first-generation status, being a student of color and students' rural background are more defining factors than income. This is in line with previous research showing that even with similar financial resources, students of underrepresented groups still did exhibit greater aspirations to study abroad as this had less to do with their financial situation and more with their fear of being stereotyped abroad (Salisbury et al., 2011).

The finding that low-income status was not a significant predictor of study abroad participation does not necessarily mean that income is not an important factor in students' considerations to study abroad. This study defined low-income students as those with a family income of \$25,000 or less. This cut-off point is based on the criteria used by the Federal TRIO Program to determine students' grant eligibility. Future research should examine the effect of income by examining the variation in the middle-income segment to gain a more nuanced understanding of how income in general affects students' decision to study abroad. Moreover, the finances of a student may influence their

decision to study abroad depending on where the money comes from. The income of financially independent students most likely relates to study abroad participation in different ways than when financial support comes from parents. Moreover, specific grants or side jobs may impact how students' financial resources influence their study abroad participation. By examining how specific elements of students' financial situation factor into their study abroad aspiration and participation, we can increase our understanding of how students' financial support is most appropriate and effective.

In this study, immigrant students and students with disabilities studied abroad at similar rates compared to other students. The absence of an effect of having a disability or being of immigrant background could be explained a result of the fact that students who have been able to successfully complete primary and secondary education and enroll in college may not experience significant limitations as a result of their disability or immigrant status in their study abroad endeavors. This is in line with research on students with disabilities and their graduate school enrollment, which shows that the effects of having a disability on educational opportunities do not appear at a later stage in the educational pipeline (Wells & Kommers, in press). Challenges earlier on may have prevented some students with disabilities from going to college. The educational opportunities of the students who manage to get through the system do not appear to be significantly diminished. By distinguishing different types of disabilities or immigrant students, the nuance and complexity of students' situations in relation to their study abroad aspirations and opportunities can be further investigated.

A couple of suggestions can be made to improve U.S. higher education by addressing the fact that some students have unequal opportunities to engage in study

abroad. In informing students on U.S. campuses about study abroad opportunities, higher education institutions should not only take students' financial considerations into account but sufficient attention should be paid to students' social and cultural backgrounds, as well as their unique considerations. First generation status, being a student of color and having a rural background were predictors of study abroad, and therefore information sessions should address concerns that may be particularly relevant to these groups of students – such as the fear of being stereotyped abroad (Brux & Fry, 2010; Salisbury et al., 2011). Moreover, information about study abroad opportunities should be provided early on in students' undergraduate degrees so students have a chance to explore their study abroad aspirations and have enough time to plan the abroad experience, taking their social and cultural responsibilities into consideration.

Providing students with opportunities to engage in global learning that does not require them to go abroad could be a way in which higher education institution can better address the fact that not all students have equal opportunities to study abroad. This could be done by integrating international and intercultural dimensions into the curriculum in the domestic learning environment (Beelen & Jones, 2015a). For example, the large number of international students at U.S. campuses can be integrated into campus life in such a way that domestic students get more exposure to different cultures and nationalities within the context of their own country. In turn, international students will be exposed to a local community that is more welcoming and engaging (Jon, 2013).

Internationalization experiences that form an integral part of students' domestic curriculum do not only make the international experience more accessible, they may also be more relevant to students' academic programs and thereby be more relevant to

students' future careers. As the world is becoming an ever more globalized space, education should provide learning experiences that help young people develop the competency to learn, work and live in culturally diverse environments. Whether through study abroad or international experiences at the home campus, higher education institutions carry a responsibility to make sure that such learning is accessible to all students. As this study shows, we need to take action to create a situation in which all students have equal access to international experiences. I hope that the insights into students' participation in study abroad will allow institutions to engage a more diverse population of students in a broader variety of opportunities to gain international experiences and for doing so helps prepare the next generation for a globalized society in a way that is socially just.

CHAPTER III

DOES GEOGRAPHICAL MOBILITY RESULT IN SOCIAL MOBILITY? TESTING THE EFFECT OF STUDY ABROAD ON EARLY CAREER INCOME.

Study abroad is often described as an educational experience that provides students with competencies that are highly valued in their later jobs. The experience would improve students' career success, and ultimately lead to a higher job income. However, there is limited empirical evidence on the effect of study abroad on job income, specifically for students in the U.S. Using U.S. representative data on college graduates, I examined the extent to which study abroad affects students' job income, four years after graduation. Results show that for students in the U.S., study abroad does not have a significant effect on students' early career income. This raises the question of whether study abroad is as beneficial to students' careers as has been assumed previously and emphasizes the need to gain a more nuanced understanding of the impact of study abroad on students' careers.

Keywords: Study abroad, career outcomes, job income, propensity score analysis.

Globalization has increased the need for college graduates who are able to work in increasingly internationalized workplaces (Crossman & Clarke, 2010; Lokkesmoe et al., 2016; Messelink, Van Maele, & Spencer-Oatey, 2015). It is therefore assumed that, in order to flourish culturally diverse and internationalized contexts, students would greatly benefit from gaining international experiences during their education (Crossman & Clarke, 2010; Messelink et al., 2015; Paige et al., 2009; Trede, Bowles, & Bridges, 2013). Study abroad is one of the main ways in which higher education institutions are

currently providing students with the opportunity to gain international experiences. By studying abroad, students develop cross-cultural understanding and communication skills (Marcotte, Desroches, & Poupart, 2007; Peng et al., 2015; Salisbury et al., 2013), as well as language skills (Prue Holmes & O'Neill, 2012; Pedersen, 2010; Williams, 2005). Such academically, culturally, and linguistically valuable learning would prepare students for international careers and is argued to have a positive impact on students' career outcomes (Miller et al., 2018; Teichler & Janson, 2007). While study abroad is often argued as a way for students to enhance their careers, there is a need for empirical evidence.

Desirable career outcomes associated with study abroad are neither automatic nor guaranteed given the ways study abroad programs are currently structured and implemented (Bolen, 2001; Weinberg, 2007). One of the first rigorous studies on the effect of study abroad on intercultural competency showed that study abroad had little influence on a students' appreciation of, or comfort with cultural differences (Salisbury et al., 2013). While international educators have long asserted that study abroad improves students' intercultural competence, simply sending students to a location abroad for academic study is not sufficient for reaching the learning goals higher education institutions often envisioned (Pedersen, 2010; Salisbury et al., 2013). Also policymakers and educators concluded that the increasing need for students to develop intercultural skills cannot be met by just sending ever higher numbers of students abroad (Stronkhorst, 2005).

Another reason for questioning the effectiveness of study abroad is because of the large disparities in study abroad opportunities. Students often rely on personal finances and are required to invest considerable amounts of financial resources to study abroad

(Dessoiff, 2006; Messelink et al., 2015; Take & Shoraku, 2018). One of the main information providers for students who want to study abroad reviewed the main providers of study abroad programs and estimated the overall average cost to be around \$14,000 per semester (GoAbroad.com, 2019). This means that study abroad is mostly available to students from well-off backgrounds go abroad, creating an inequity in the opportunities to gain international experiences. Study abroad is thereby a potential educational opportunity through which social status is produced or reproduced (Bilecen & van Mol, 2017).

Researchers as well as practitioners have repeatedly pointed out that there is limited empirical evidence on the employment benefits and outcomes of student mobility experiences (van Mol, 2017; Waibel et al., 2017). While studies indicate study abroad could be beneficial to students' job income, studies mostly measured either students' perceptions of how study abroad affected their careers (Franklin, 2010; Potts, 2015) or employers' perceptions of whether international experience plays a role in hiring graduates (Crossman & Clarke, 2010; Molony, Sowter, & Potts, 2011). Moreover, research on such effects has largely taken place in Europe (Janson, Schomburg, & Teichler, 2009; Teichler & Janson, 2007) and might not apply to a U.S. context. In the U.S., universities have increasingly become a space of education-commodification and student consumerism, resulting in large disparities in educational opportunities (Armstrong & Hamilton, 2013; Bolen, 2001). This creates the need to examine the effect of study abroad on job income in the U.S. specifically.

Study abroad often requires a substantial financial investment and, therefore, it is important to evaluate the economic impact of study abroad (Cochrane & Cheng, 2016).

In a study on students' expected benefits, students reported to expect that going abroad leads to a higher job income (Miller et al., 2018). Especially for students from less privileged backgrounds, their decision to make a large financial investment can add significantly to their college debt and cannot just be based on beliefs that such experience will pay itself back. Moreover, by investigating the effect of study abroad on job income, better insight can be gained into how certain students benefit from their social background by being able to take part in educational experiences that might further advantage them in their early careers. The purpose of this study is to use representative U.S. data to examine the question: To what extent does study abroad participation of U.S. students affects early career income, four years after graduation? This study will thereby help clarify whether study abroad is indeed the career-boosting experience that is often argued to be. Based on the results, recommendations are made for research and for higher education institutions to better advise and support students in their study abroad efforts.

Literature Review

Previous research has shown that there is insufficient evidence for the effect of study abroad on job income, particularly for students in the U.S. Moreover, research that takes into account the disparities in study abroad opportunities when measuring the effect on income has been lacking.

Study Abroad and Career Success: Insufficient Evidence

The evidence that is currently used to demonstrate the effect of study abroad on career success, and specifically income, mostly addresses the direct learning outcomes that, in turn, would enhance students' careers later on. Study abroad has an overall positive impact on the development of 21st - century job skills like intercultural

competencies, curiosity, flexibility, adaptability, tolerance for ambiguity, and course or major-related knowledge (Farrugia & Sanger, 2017). Specifically, students who go abroad gain experiences in interacting in international and intercultural settings – including people, languages, and traditions from different parts of the world, allowing them to become aware of others and their perspectives (DeJaeghere, 2009). This would enhance students’ intercultural adaptability and sensitivity (Williams, 2005), strengthens feelings of independence (Cisneros-Donahue, Krentler, Reinig, & Sabol, 2012), language skills (Prue Holmes & O’Neill, 2012; Pedersen, 2010; Williams, 2005). Moreover, study abroad can provide students with the opportunity to develop career interests and aspirations (Dwyer & Peters, 2004; Mohajeri Norris & Gillespie, 2009; Paige et al., 2009) and to develop a professional network (Dwyer, 2004). These learning outcomes of study abroad show the potential of such experience to better prepare students for their future careers and are often used to argue that study abroad positively affects career success.

A second way in which the effect of study abroad on careers is demonstrated is through the reported perceptions of students and employers. Students who studied abroad reported feeling the abroad experience helped them in gaining skills useful in their jobs (Franklin, 2010; Potts, 2015). Specifically, students felt their study abroad experience helped them become more self-aware in their work (Franklin, 2010). Moreover, students reported benefitting from their international experiences by having gained communication, teamwork, problem-solving and self-management skills (Potts, 2015). In line with students’ beliefs, employers reported to recognize the importance of cross-cultural understanding in an increasingly global economic environment (Crossman &

Clarke, 2010; Molony et al., 2011). Employers believed that students who gained international experiences through study abroad were superior in professionally relevant competencies, specifically foreign language proficiency, adaptability and the capability to take initiative (Teichler & Janson, 2007). In short, the effect of study abroad on career success is mostly argued for through self-reports by students and employers. However, these perceived effects are subjective and provide only suggestive evidence of a possible impact of having study abroad experiences (Waibel et al., 2017).

Moreover, most studies on the effect of study abroad on students' careers took place in a European context (e.g. Janson, Schomburg, & Teichler, 2009; Teichler & Janson, 2007). There are key differences between the European and the U.S. higher education systems in how internationalization processes in general, and study abroad specifically, are organized (de Wit, 2002). The European Erasmus program provides financial support to all students who go abroad via an exchange program during their undergraduate degree (Gresham & Clayton, 2011; Petzold & Peter, 2015). In the U.S., there is no federal funding system for study abroad but a strong presence of private foundations and organizations (de Wit, 2002). The lack of a federal funding system to regulate and fund study abroad hands much of the responsibility to the student, creating disparities in study abroad opportunities. This means that European studies on the effect of study abroad on career success cannot be generalized to the U.S. student population.

Disparities in Study Abroad Opportunities in the U.S.

Over the two decades, scholars and the U.S. federal government have become increasingly aware of the large disparities in opportunities to study abroad for students of underrepresented backgrounds (Dessoff, 2006; NAFSA, 2003; U.S. Department of

Education, 2012; Wiers-Jenssen, 2011). Factors predicting the likelihood of participating in study abroad programs can be summarized by discussing financial as well as social factors.

The cost of study abroad plays a larger role for students from low-income families when deciding whether to go (Perna et al., 2014; Sánchez et al., 2006). Study abroad can be expensive and often requires a large financial investment by students. Students often pay a program fee to be able to study abroad in addition to their regular tuition. On top of this, living in a foreign country involves extra expenses in terms of travel costs, rent and visa applications. Moreover, while abroad, students do not receive an income from a side job because of the inability to work during their time abroad. While the extra costs apply to all students, students of low-income backgrounds or with high financial needs are more affected. Correspondingly, students with higher financial need are less likely to participate in study abroad (Whatley, 2017). The financial considerations do not only affect students' opportunities; they influence their aspiration to go abroad. Low-income students have lower benefit expectations from study abroad than their peers (Lörz et al., 2016). As a result, financially disadvantaged students less often aspire to study abroad.

Besides the financial considerations, social and cultural factors play a role in students' decisions to study abroad. In the process of applying and preparing for a semester abroad, students can benefit substantially from outside advice, support and expertise. First-generation students from households where neither parent completed a bachelor's degree, may not benefit from an environment that is familiar with study abroad and its benefits, thereby making these students less likely to form a study abroad intention (Lörz et al., 2016). Students of color are also known to experience obstacles to

engaging in study abroad, for example through limited information provided by the institution addressing these students' specific concerns (Brux & Fry, 2010). For some students, attending college already is a transition to a different culture almost making it an 'abroad' experience on its own. For example, students of underrepresented racial minorities and immigrant students often deal with a transition into college that is culturally very different from their home communities (Nuñez, 2009; Rodriguez & Cruz, 2009). Also for rural and transfer students, study abroad means an additional transition process (Byun et al., 2012; McClure, Szelenyi, Niehaus, Anderson, & Reed, 2010). In short, the social and cultural background of a student play a role in their inclination and aspiration to study abroad.

Apart from students' financial and social resources, college experiences can influence the students' motivation to study abroad. Living with family while attending school or having to commute long distances to school negatively affects U.S. students' intent to study abroad (Stroud, 2010). For students in science, technology, engineering or math (STEM) majors finding a semester's worth of courses at a university abroad that meet the requirements of the home university can be challenging (Luo & Jamieson-Drake, 2014; Niehaus & Inkelas, 2016; Salisbury et al., 2009). Similarly, transfer students often have less flexibility in their required curriculum (Quaye & Harper, 2014). Students who are struggling academically may be less likely to study abroad as they have to focus on their required academic program in order to complete their degree. Furthermore, students with disabilities are underrepresented in study abroad (Dessoff, 2006; Johnstone & Edwards, 2019). These students often need appropriate accommodations (Kimball et al., 2016) and have little support in gaining such

accommodations while abroad (Johnstone & Edwards, 2019). As students' demographics and college experiences predict study abroad participation, these factors should be taken into account when examining the effect of study abroad on students' career outcomes.

Implications for Research

As discussed in the previous section, study abroad is only available to a select group of students in the U.S and less accessible to students of socially and financially disadvantaged backgrounds. This is especially problematic as the factors predicting study abroad participation are predictors of measures of career success such as income (Ng et al., 2005). The fact that predictors of study abroad are also known to be impacting career success means that study abroad is an example of an educational opportunity through which social status can be produced or reproduced (Bilecen & van Mol, 2017). This is problematic for study abroad as an educational experience; moreover, it creates a challenge for empirical research. Without correcting for confounding factors, the effect of study abroad on career success might very well be the result of a bias introduced by the types of students who are more likely to go abroad (Caliendo & Kopeinig, 2008). In order to get a better sense of the unique effect of study abroad on career outcomes, there is a need for more advanced methodological approaches to better account for confounding factors (Waibel et al., 2017).

Previous studies have investigated the effect of study abroad on career success by correcting for confounding variables using regressions with covariates (Janson et al., 2009; Teichler & Janson, 2007; Waibel et al., 2017). However, only including covariates in the regression model is unlikely to adequately account for selection bias in study abroad participation, and could lead to a biased estimation of the effect. Therefore,

analyses need to account for the fact that students do not have equal probabilities to study abroad (Salisbury et al., 2013). In this study, I use nationally representative data to test the effect of study abroad on job income, four years after students graduated from their undergraduate degree. I adjust for the inequalities in study abroad opportunities by using propensity score analysis along with regression analyses. This allows me to better estimate the causal effect of study abroad on job income (Caliendo & Kopeinig, 2008; Schneider, Carnoy, Kilpatrick, Schmidt, & Shavelson, 2007).

Research Design

Propensity score analysis is a quasi-causal method that approximates an experimental setting by adjusting for students' probability of receiving the treatment, in this case studying abroad (Caliendo & Kopeinig, 2008; Schneider et al., 2007). By including the propensity scores, the regression analysis does not only take factors into account that impact the outcome but also corrects for the fact that some students participate in study abroad less frequently than other students (Rosenbaum & Rubin, 1983). Specifically, propensity score weighting balances the treated and untreated groups, so that the group of students who studied abroad and the group who did not can be considered similar on all the covariates included in the propensity score model (Ho, Imai, King, & Stuart, 2007).

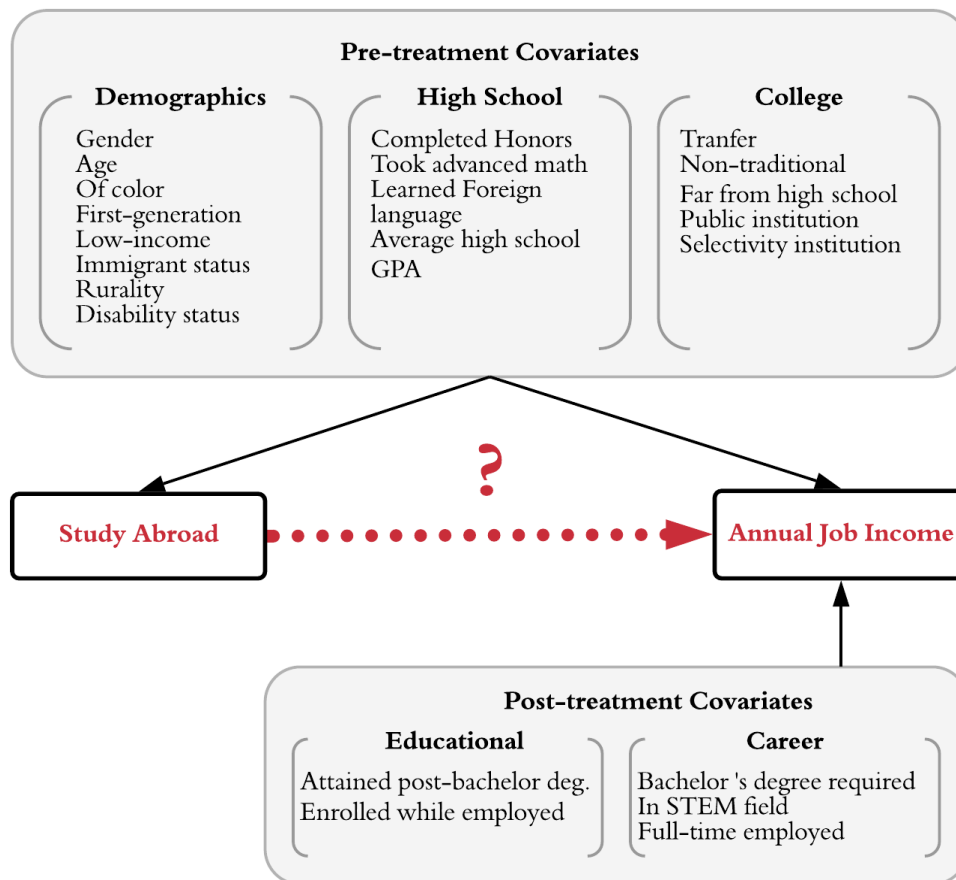


Figure 3. Analytical framework of the effect of study abroad on income.

As visualized in Figure 3, this study corrected for confounding factors in two steps. First, pre-treatment variables – demographics, high school experiences, and college characteristics – were used to predict selection into the treatment, study abroad. Second, confounding factors were included as covariates in the regression model examining the extent to which the treatment (study abroad) affects the outcome (job income). In addition to the pre-treatment variables as used in calculating the propensity scores, the covariates used in the regression model include post-treatment variables – graduates’

post-college job and educational characteristics that are likely to affect future job income. In modeling both predictors of students' likelihood of having studied abroad and income, the study is more robust against misspecification of the model and better corrects for confounding factors, providing a closer estimation of the effect of study abroad on early career income (Rosenbaum & Rubin, 1983).

Methods

To test the effect of study abroad on job income, I used data from the Baccalaureate and Beyond Longitudinal Study (B&B:08/12). I discuss the data source, the sample, how I accounted for the complex survey design and missing data, the variables included in the study, and the data analyses used.

Data Source

The B&B:08/12, is a dataset collected by the National Center for Education Statistics (NCES), examining students' education and work experiences after they completed their bachelor's degree. The B&B:08/12 sample includes 17,170² students who completed requirements for a bachelor's degree in the academic year 2007-08 at a postsecondary institution in the United States. This sample was followed up four years after graduation in 2012 (Cominole et al., 2015). During the first data collection, students provided extensive information on their demographic characteristics, family background, and on their college experience, including whether they studied abroad. The follow-up data consists of information on students' continuing education and career outcomes four years after graduation. This allows for an examination of the effect of study abroad on job income, four years after students completed their bachelor's degree.

² All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license.

Weights, sample and missing data. The B&B:08/12 data collection followed a complex sampling strategy. Therefore, all analyses were weighted according to NCES standards, accounting for oversampling and nonresponse (Heeringa et al., 2017). Specifically, I used the analysis weight considering only members who were eligible for the study, were not deceased at the time of the B&B:08/12 data collection and had completed, partial, or abbreviated interviews in 2009 and 2012 (Cominole et al., 2015).

In addition to specifying the sample by including sample weights, the sample of this study was adjusted to fit the scope of the research. Because this study only focuses on students who completed a bachelor's degree, students who graduated from a two-year, or less than two-year institution were excluded from the sample to ensure consistency of definition. Moreover, international students doing their bachelor's degrees in the U.S. were removed from the sample because they already study abroad. Students who were over 30 years old at the time of college graduation were removed from the sample. Nontraditional students often have different educational and career trajectories, might have significant working experience before attending college and are more likely to have social and financial responsibilities that result in different study abroad opportunities and career outcomes compared to more traditional college students. While excluding students who were over 30 years when graduating from their bachelor's resulted in the loss of 2,980 cases in the sample, it allowed for a more consistent comparison and makes it clearer to whom the results of this study apply. Because I use job income as an outcome variable, the 3,080 graduates' who were not employed or who did not work for pay at the time of the follow-up in 2012 were excluded from the sample.

Taking the weights and sample specifications into consideration, the analytic sample consisted of 8,380 college graduates. The percentage of missing values on the variables were all under 1.8%, resulting in an overall rate of missingness of 3.9%. The analyses were conducted using complete case analysis including 8,050 cases, 96.1% of the total sample.

Variables

Dependent and independent variables. Job income indicated the graduates' self-reported annualized salary from their current or most recent primary job as of the 2012 interview. The independent variable, participation in study abroad, was measured in the final year of students' undergraduate degree (2007-08), through a question asking whether students ever studied abroad as of their last year in college. As the duration of the study abroad matters in students' experience and potentially later career outcomes (Dwyer, 2004), only students who studied abroad for more than a month were considered as having participated in study abroad.

Covariates. The covariates chosen were expected to impact the outcome, income, or the treatment, study abroad. The propensity scores indicate students' likelihood to have studied abroad and were therefore based only on the pre-treatment covariates (Hirano & Imbens, 2001; Zhao, 2006). These covariates describe students' demographics, high school experiences, and college characteristics. Post-treatment variables included students' post-college educational and job experiences. Because these variables were measured after students went abroad, they were excluded from the model calculating the propensity scores and were only included in the final regression model predicting job income.

Pre-treatment covariates. Demographic covariates indicated students' gender (male/female), age, whether students were of color, first-generation, low-income, students' immigrant status, disability status and the rurality of the student. Age was a standardized variable indicating students' age in their last year in college. Students of color were students who identified as Asian, Black/African American, Hispanic/Latino, American Indian, Alaska Native, Native Hawaiian or other Pacific Islander, and who identified as other or more than one race. First-generation students were those for whom neither parent had a bachelor's degree. Low-income students are those whose parents had an annual income of \$25,000 or below during the 2007-08 year. This corresponds with the cut-off point for the federal TRIO programs by the U.S. Department of Education. Immigrant students are those who immigrated to the U.S. or who had one or both parents born in a foreign country. Students with disabilities are those who indicated having a hearing, visual, speech, language, mobility or health impairment, or students who indicated they were suffering from depression, developmental disability or brain injury. Rurality of the student was indicated by the degree of urbanization of the 2007-08 permanent residence of the student. Students were defined as rural if their permanent home address was in a rural area or a remote town at least 35 miles from an urbanized area.

High school variables indicated the students' average GPA in high school, whether they completed at least one honors subject, whether they learned a foreign language for 4 years or more, and whether they completed an advanced calculus math course. Students' average GPA in high school was measured on the most recent date students had taken their college admissions test. The honors subject variable indicates

whether the student had taken at least one Advanced Placement course (course at college-level), accelerated course or honors course in one of the high school subject areas (English, math, foreign languages, science or social studies). Advanced math indicated whether students took no math, only algebra 2, trigonometry or pre-calculus compared to taking a more advanced calculus course.

College characteristics indicated whether students could be considered transfer or nontraditional, whether they attended a public institution or a selective institution, and whether the student lived more than 50 miles from their high school. Non-traditional students were those whose college enrollment was delayed, had no high school diploma, were part-time enrolled, were financially independent, had dependents, or were employed full time while enrolled.

Post-treatment covariates. Post-treatment variables were included in the final regression model to correct for students' later educational and job experiences, also potentially impacting income. Post-college educational experience covariates included whether students gained an additional degree and whether they were enrolled while employed. Post-college job characteristics indicated whether the job respondents held in 2012 required a bachelor's degree, whether the job was in a STEM field, and graduates' full-time employment status. Primary job was defined as the graduate's current or most recent job that lasted more than 3 months; if more than one job met these criteria, the job with the highest number of hours per week was selected.

Data Analyses

Data analysis consisted of three steps: descriptive analysis and mean comparisons, calculation of the propensity scores, and regression analyses including propensity score weights.

Descriptive analysis & mean comparisons. Descriptive analyses provide a description of the analytic sample and the two subsamples of students, those who studied abroad and those who did not, on all the variables used in the study. I calculated means and standard deviations for the independent variable (study abroad), the outcome (income), and the covariates indicating students' demographics, high school experiences, college characteristics and later educational and job experiences. Mean comparison tests provided a first glance at the extent to which there were differences between the students who studied abroad and those who did not by testing if the means on all the variables were statistically different between the two groups. T-tests were used for the continuous variables and Chi-Squared tests for the dichotomous variables.

Calculating propensity scores. Propensity scores were calculated to estimate a student's likelihood of participation in study abroad by using a logistic regression model, including the pre-treatment variables as predictors (Hirano & Imbens, 2001; Zhao, 2006). To check for common support I conducted a visual analysis of a histogram of the density distribution of the propensity scores of the people who studied abroad and of those who did not. There was no sizeable difference between the maximum and minimum of the density distribution, indicating sufficient overlap in the characteristics between both groups (Caliendo & Kopeinig, 2008).

Inverse propensity weights (IPW) were calculated by taking the average treatment effect of the treated (Austin, 2011). There are two common types of propensity weights that can be calculated; the average treatment effect and the treatment effect of the treated. The average treatment effect is mostly used in a research context where it is realistic to estimate the effect as if it were applied to all cases in the population (Austin, 2011). Because this study focused on the effect of the treatment study abroad, the treatment effect of the treated was of greater interest. Therefore I calculated the average effect of the treatment on only those subjects who received the treatment (Austin, 2011).

I checked the balance by statistically comparing the means in both groups – the students who studied abroad and who did not – on all the covariates in the model (Rosenbaum & Rubin, 1983). Using the unweighted data, the study abroad and not-study abroad groups differed significantly on almost all included covariates on the $p < .01$ level, except for the variables indicating students' immigrant and disability status. In the propensity score model, age was included as a categorical variable indicating whether students were younger than 23, between 23 and 28, or older than 28. This categorization created a better balance compared to including age as a continuous variable and facilitated distinguishing between students who completed their undergraduate degree within six years after graduating high school and students who took more time to complete their undergraduate degree.

After weighing the data with the inverse propensity score weights, the students who studied abroad and did not study abroad were compared on the covariates to check if the groups were balanced. Including the weights resulted in the groups were similar on all of the covariates except for the variable indicating rurality. The group of students who

did not study abroad contained a higher percentage of students from rural backgrounds. This slight imbalance should be kept in mind when interpreting results. Overall, the propensity scores largely corrected for the selection bias that would make some students more likely to have studied abroad, potentially explaining the effect of study abroad on job income.

Analyses of weighted data. The B&B:08/12 sampling design relied on stratified multistage sampling with unequal probabilities of sample selection (Cominole et al., 2015). Therefore, I combined the propensity score weights with the survey weight provided by NCES. Applying this aggregate weight to the data generated treatment effect estimates that were generalizable to the target population (Dugoff, Schuler, & Stuart, 2014). Linear regression analyses were conducted on the weighted data, given the continuous nature of the outcome variable: job income four years after graduation. Covariates used in calculating the propensity scores were also included in the regression analysis. This doubly robust method of correcting for confounding factors ensured that in case the propensity score model was incorrectly specified, the regression model still would correct for the pre-treatment variables (Ho et al., 2007). Additionally, post-college job and educational characteristics were included in the regression model to correct for possible post-college confounding explanations of the effect of study abroad on job income, represented in the following equation:

$$y = \beta_0 + \beta_1 * \textit{Study Abroad} + \beta_2 * \textit{Demographics} + \beta_3 * \textit{High School Experiences} + \beta_4 * \textit{College Characteristics} + \beta_5 * \textit{Post-College Educational and Career Characteristics} + \textit{Error}$$

Limitations

By using propensity score analysis, this study adopted an additional way to correct for the fact that not all students have the opportunity to go abroad, providing a better sense of the effect of study abroad on job income. However, some limitations should be taken into account when interpreting the results.

First, this study was only able to examine the effect of study abroad on income four years after students graduated from their bachelor's degree. While this was a longer time-span than most studies have investigated, four years may still not be long enough to gain a complete understanding of the effect of study abroad on students' careers. Students who chose to enroll in additional degrees were likely to still be in school four years after graduation from their bachelor's degree. I did not exclude students' who enrolled in additional degrees from the sample as I wanted to understand the effect of study abroad on income, taking into account that students' decisions to enroll in an additional degree might be a part of the story of how study abroad affects early career income.

Second, by including post-treatment variables in the regression analysis, the analysis may be masking the effect by correcting for possible mediating factors. In this case, I am interested in the effect of study abroad, regardless of educational and career characteristics. By correcting for the post-treatment variables I make sure that the effect I find is not due to these post-treatment factors. However, including post-treatment variables can also obscure the effect of study abroad by explaining the effect of study abroad on income, resulting in an absence of the effect of study abroad. The results in this study should therefore be interpreted taking into account that students' post-treatment educational and career characteristics were held constant.

Lastly, the analysis is limited in the capacity to show causality as it cannot adjust for unobserved variables. For example, students' career aspirations might be impacted by study abroad participation, possibly impacting career outcomes. Even though this study used propensity scores analysis to correct for confounding factors, this study can thereby not claim causality. However, using propensity score analysis does improve the estimates of this effect compared to past studies on this topic and thereby gets us one step closer to elucidating the extent to which study abroad affects job income.

Results

Analysis of the descriptive statistics and mean comparisons provided an understanding of the total sample, the sample of students who studied abroad, and students who did not. Results from the doubly robust linear regression allowed a better understanding of whether study abroad affects early career income, correcting for respondents' demographics, high school and college experiences and post-college job and educational characteristics.

Descriptive Results and Mean Comparisons

The descriptive results and mean comparisons are provided in Table 3 and show that students who studied abroad on average earned \$1,069/year more four years after college completion than students who did not study abroad. However, the difference in the average annual income was not significant. This finding contradicts with expectations in research on study abroad and its beneficial outcomes on students' learning and careers. The absence of a significant difference in income is already unexpected and is even more remarkable considering the descriptive characteristics of the students who studied abroad.

Students who went abroad were more often female and younger, and were less often part of an underrepresented group in higher education. Students who went abroad were less often of color (14%) compared to students who did not study abroad (24%). They were also more often first-generation (25% versus 42%), and of a low-income background (15% versus 25%). Results also showed that students from rural backgrounds went abroad less often than students from urban or suburban areas. Moreover, students who went abroad were less often from rural backgrounds (20%) compared to the students who did not go abroad (29%).

Apart from the differences between the groups in terms of demographic characteristics, students who studied abroad generally performed better in high school compared to their peers who did not go abroad. They had a higher average high school GPA (6.57 versus 6.25) and more often completed honors subjects than students who did not go abroad (64% versus 56%). Moreover, students who went abroad more often had taken advanced math (54% versus 40%) and more often learned a foreign language in high school (33% versus 25%). In terms of college experiences, students who went abroad were less often transfer (7% versus 18%) and non-traditional students (31% versus 48%). Furthermore, students who studied abroad less often attended public (53% versus 69%), and more often selective institutions (50% versus 29%). In terms of post-college characteristics, students who went abroad more often gained an additional degree (25% versus 19%) and more often held a job that required a bachelor's degree (75% versus 68%).

In short, students who went abroad were more often white, traditional, high-achieving students, often coming from privileged backgrounds and generally seemed to

be students who are expected to have a higher annual income. This makes the absence of a significant difference in post-college annual income between the students who studied abroad and who did not even more intriguing. The absence of a significant descriptive difference might be explained by post-treatment characteristics. For example, students who went abroad more often attained an additional degree after graduating from their bachelor, meaning that they have been in the workforce for a shorter period at the time income was measured. Part of the reason why students who studied abroad did not have a significantly higher income than students who did not go abroad may have to do with the fact that these students enrolled more often in additional degrees and may just have entered the job market at the time income was measured. The mean comparisons thereby show the necessity to correct for these covariates when evaluating the possible effect of study abroad on future income.

Table 3. Means, standard errors and mean comparisons for all variables.

Variable	All Students N=8,050		Students who studied abroad N=1,010		Students who did not study abroad N=7,040		Diff.
	Mean	SE	Mean	SE	Mean	SE	
Studied abroad	0.13	0.01	--	--	--	--	
Dependent Variable							
Annual income	45,546.95	(561.51)	46,481.77	(1,418.71)	45,412.42	(575.54)	1069.35
Demographics							
Female	0.57	(0.01)	0.69	(0.02)	0.55	(0.01)	0.14**
Age	1.39	(0.01)	1.19	(0.02)	1.42	(0.01)	-0.23**
Of color	0.23	(0.01)	0.14	(0.02)	0.24	(0.01)	-0.10**
First generation	0.40	(0.01)	0.25	(0.02)	0.42	(0.01)	-0.17**
Low-income	0.23	(0.01)	0.15	(0.02)	0.25	(0.01)	-0.10**
Immigrant	0.19	(0.01)	0.17	(0.02)	0.20	(0.01)	-0.03
Rural	0.28	(0.01)	0.20	(0.02)	0.29	(0.01)	-0.09**
With a disability	0.07	(0.00)	0.09	(0.01)	0.07	(0.00)	0.02
High school experiences							
Completed honors	0.57	(0.01)	0.64	(0.02)	0.56	(0.01)	0.08*
Took advanced math	0.42	(0.01)	0.54	(0.03)	0.40	(0.01)	0.14**
Learned foreign language	0.26	(0.01)	0.33	(0.02)	0.25	(0.01)	0.08*
Average GPA	6.29	(0.02)	6.57	(0.04)	6.25	(0.02)	0.32**
College experiences							
Transfer	0.17	(0.01)	0.07	(0.01)	0.18	(0.01)	-0.11**
Public institution	0.67	(0.01)	0.53	(0.03)	0.69	(0.01)	-0.16**
Selective institution	0.32	(0.02)	0.50	(0.04)	0.29	(0.02)	0.21**
Non-traditional	0.46	(0.01)	0.31	(0.03)	0.48	(0.01)	-0.17**
Far from high school	0.45	(0.01)	0.53	(0.02)	0.44	(0.01)	0.09**
Post-college Characteristics							
Post-bachelor's degree	0.19	(0.01)	0.25	(0.02)	0.19	(0.01)	0.06*
Enrolled while employed	0.13	(0.01)	0.15	(0.02)	0.13	(0.01)	0.02
Bachelor's required	0.69	(0.01)	0.75	(0.02)	0.68	(0.01)	0.07**
In a STEM field	0.14	(0.01)	0.12	(0.02)	0.14	(0.01)	-0.02
Full-time employed	0.83	(0.01)	0.81	(0.02)	0.83	(0.01)	-0.02

Note. All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license.

Significant differences between students who did and did not go abroad indicated ** p<0.001, * p<0.01, + p<0.05 as determined using two-tailed tests.

Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics.

Regression Results

By running a doubly robust regression analysis, I corrected for the covariates, which allowed me to gain a closer understanding of the effect of study abroad on income. Regression results are presented in Table 4 and show that, even when correcting for students' demographics, high school and college experiences and post-bachelor characteristics, study abroad was not a significant predictor of income. Students who studied abroad had, on average, a higher income of \$1,085. However, this difference is relatively small and not statistically significant. Non-significant findings support the results from the descriptive statistics and mean comparisons, indicating that students who studied abroad did not have a higher annual job income, four years after graduation.

The regression results also indicate what variables are predictive of annual income. When looking at annual income overall, pre-college predictors include students' gender, disability status, and math level in high school and institutional selectivity. Females earned, on average, \$10,172/year less than males. People with disabilities earned on average \$6,764/year less than people without a disability. People who took advanced math in high school had an average income that was \$3,758/year higher than students who did not take advanced math. All post-bachelor job characteristics were significant predictors of income. Students who gained a post bachelor's degree earned \$4,082/year less than students who did not attain a post bachelor's degree. Also, students who were enrolled while employed had a significantly lower income of \$8,613/year less than people who were not enrolled while employed. Students earned \$10,193/year more if their job required a bachelor's degree, \$6,559/year more if their job was in a STEM field, and \$22,259/year more if they were full-time employed.

Table 4. Annual job income, four years after bachelor graduation - linear regression.

Variables	β	SD
Studied Abroad	1,085.3	(1,263.6)
Demographics		
Female	-10,171.8**	(1,614.2)
Age <25 reference group		
25-28	-726.9	(1,790.1)
>28	-527.7	(4,044.5)
Of color	-471.4	(1,944.0)
First Generation	-81.5	(1,454.2)
Low-income	-1,427.6	(1,735.5)
Immigrant	-909.8	(1,954.1)
Rural	-611.8	(1,285.8)
With a disability	-6,763.6*	(2,390.3)
High school experiences		
Completed honors subject	-1,051.1	(1,630.3)
Took advanced math	3,758.1*	(1,318.9)
Learned foreign language	-525.3	(1,434.7)
Average high school GPA	1,597.5	(1,094.5)
College experiences		
Transfer	3,706.0	(2,395.4)
Non-traditional	673.1	(1,703.3)
Living far from high school	584.9	(1,321.5)
Public institution	-1,015.8	(1,303.6)
Selective institution	3,339.5+	(1,451.6)
Post-college characteristics		
Attained post-bachelor's degree	-4,082.4*	(1,487.4)
Enrolled while employed	-8,613.1**	(1,999.1)
Bachelor's degree required	10,193.1**	(1,383.7)
In a STEM field	6,559.0**	(1,791.6)
Full-time employed	22,258.5**	(1,513.4)
Observations	8,050	
R-Squared	0.248	

Note: Standard errors in parentheses. All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license. **p<0.001; *p<0.01; +p<0.05

Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics.

Some of the variables on which students who went abroad differed significantly from those who did not (Table 3) were also significant predictors of income (Table 4).

Some variables indicate ways in which students who went abroad may have been more subtly advantaged in their careers. Students who went abroad more often held a job that

required a bachelor's degree, which, on average, resulted in a \$10,193 higher annual income. At the same time, students who went abroad were characterized by variables that were related to a lower annual income. Students who went abroad were more often female and had, on average, a \$10,172/year lower annual income. Also, students who went abroad enrolled more often in an additional degree, which generally led to an average of \$4,082/year lower income compared to those who were not enrolled. While the regression analysis accounted for these factors, it shows that there are factors that impact both students' likelihood of studying abroad and their income.

Discussion

Study abroad is often portrayed as an educational experience that gives students opportunities for types of learning that benefit their career success. The results of this study show that, for students in the U.S., there is no indication of study abroad positively impacting students' early career income. Even though students who studied abroad were generally students who are expected to earn a higher income, they did not four years after graduating from their undergraduate degree. The persistent narrative talking about study abroad in the context of economic outcomes emphasizes the need for a more nuanced understanding of the value of study abroad for students' careers. Next, I will discuss possible explanations for the absence of an effect, the need for further research and implications for education policy and practice.

Finding that students who went abroad did not have a higher average income compared to students who did not go abroad may be partially explained by the timing of measuring job income. While students who studied abroad did not experience a higher income in the first four years after they graduated, results show that these students

enrolled in additional degrees more often. Some of the students who enrolled in additional degrees may be still in school by the time of the follow-up. Students who are still enrolled most likely earn less than their peers who are not enrolled while employed. Those who graduate from their post-bachelor's degree at the time income was measured only recently entered the workforce and therefore are unlikely to get paid as much as people who started working immediately after graduation. Therefore, the higher rate of students getting additional degrees could explain to some extent why students who went abroad did not have a higher average income. Future research should examine the effect of study abroad by looking at career outcomes later on in their work life. Not only have most of these students completed their additional degrees by that time; they will also have had more time to benefit from the skills they learned abroad.

Another reason for the absence of an effect of study abroad on early income might have to do with the employers' perceived value of the abroad experience. Previous studies on the effect of study abroad on career success have taken place in a European context (Janson et al., 2009; Teichler & Janson, 2007). European countries have intensive flows of people crossing national borders for business and leisure, and therefore, having international experiences may be generally more valued or required. As shown previously, international experiences are particularly valued when employers need graduates with good foreign language and decision-making skills (van Mol, 2017). Employers in the U.S. may not perceive a direct value in the study abroad experience to the same extent. However, the international character of the job may not need to be a direct indication of the value of having had international experiences. Especially considering the culturally diverse workforce in the U.S., international experiences may

make for more collaborative and effective employees in general. Future studies should shed light on whether the impact of international experience on specific elements of career success, also in non-internationalized jobs to see if the competencies acquired by gaining international experiences might translate to other job competencies.

The value employers attribute to the study abroad experience might vary depending on the perceived quality of the education abroad (Blanco Ramírez, 2015). A study abroad experience in a country that is generally perceived as having ‘marginal educational quality’, is likely to be less influential to students’ career outcomes than a study abroad experience in a country that is generally perceived as being of ‘high educational quality’. For example, employers in the Northern European countries place less importance on international study compared to employers in Southern European countries (van Mol, 2017). The general perception of the quality of the U.S. higher education system may cause employers to view study abroad in a foreign country as less beneficial to the overall quality of students’ education, especially when students went to a country in the global South. However, study abroad contributes to learning and development not only through course or major-related knowledge but mostly through the development of competencies like intercultural skills, curiosity, flexibility, adaptability and tolerance for ambiguity (Farrugia & Sanger, 2017).

Similarly, the perceived quality of the home institution may play a role in how much study abroad adds to students’ job market competitiveness. For students who already come from esteemed institutions, study abroad may add less to their competitiveness than for students at less prestigious universities. Future research should investigate how employers’ perceived value of study abroad differs depending on the

country to which the student went and the perceived ‘quality’ of the education attained abroad in relation to the education at home. With these insights, students can be better informed on how to design their study abroad experiences in a way that contributes most to their personal, academic and career goals. Moreover, with these insights, more can be learned about how to better inform employers and recruiters on the value of study abroad beyond the academic experience and how to best evaluate and utilize the study abroad experiences in particular types of jobs.

The fact that, despite the general presumption, no effect was found of study abroad on early career income overall shows there is a need for a more nuanced understanding of how study abroad generally impacts career perspectives. Previous research suggested that students who studied abroad gravitate more often toward work that has an intercultural dimension or global focus (Franklin, 2010; Mohajeri Norris & Gillespie, 2009). As such work may be less financially rewarding, this may help explain the absence of an effect of study abroad on income. With research examining the effect of study abroad in different types of careers and fields, a better insight can be gained into for what work study abroad is impacting careers.

Moreover, the effect of study abroad may depend on the specific experience abroad. The length of time that students went abroad can play a large role in the effect the experience has on students’ learning outcomes (Stronkhorst, 2005). Moreover, study abroad may not be as impactful to a student who was already well-traveled than it is for students who are otherwise less likely to engage in such experience. A more nuanced understanding of in which cases study abroad is likely to impact students’ careers allows for a more targeted and efficient way of spending resources available to support students.

Moreover, it will help inform students on whether to invest in study abroad and what type of program to engage in to best align the experience with their personal, academic and career aspirations.

The fact that this study found no effect of study abroad on early career job income does not mean that study abroad does not impact students' careers. However, it does raise the question if income is the best outcome measure to define the effect of study abroad. Career outcomes that are used to evaluate the effect of study abroad should better represent the goal of study abroad which is not only to support students in becoming more competent employees but to respond to global crisis (Reilly & Senders, 2009). This study shows that the increasing emphasis on the value of study abroad in terms of socioeconomic outcomes like income is not representing how study abroad can be most meaningful to students' learning. Future research and data collection efforts by national institutes should try to gain a more comprehensive understanding of career outcomes such as creative problem-solving skills and the capability for people to communicate and collaborate in culturally diverse teams. In this way, research can gain a better insight into the impact of study abroad on creating not just more productive but also more globally competent employees.

Implications for Policy and Practice

Apart from implications for further research, this study has implications for policy and practice. Specifically, the results of this study inform recommendations for advising and supporting students in their aspirations to study abroad. The 'return on investment' language that is used to attract students into study abroad programs, arguing that the cost of the experience is a sound economic investment does not apply. Because study abroad

requires a considerable financial investment, students need data-driven information to inform their decision whether to go abroad and cannot just base this on assumed career outcomes. This is especially important for students for whom college is already expensive and who have to possibly take out more loans to be able to go abroad. While study abroad can serve many learning goals (Mohajeri Norris & Gillespie, 2009; Williams, 2005), going abroad in order to increase early career income might not be the right incentive for U.S. students and should not be used by institutions or organizations when promoting study abroad. In advising and informing students who aspire to study abroad, attention should be focused on specific learning goals of the students in relation to their academic and career aspirations. For example, advisors at international offices can encourage students to think actively about how they envision their study abroad experience to be meaningful in their academic and career development.

To effectively provide an educational context that produces long-lasting effects on students' careers, institutions and educators need to take steps to support students in translating the intercultural skills they acquired abroad to their lives back home (Messelink et al., 2015). Currently, study abroad programs often lack the educational and pedagogical context that make the experience meaningful to students' careers (Bolen, 2001). However, it has been shown that the experiences in which students reflect on their abroad experiences such as pre- and post-departure meetings are the defining experiences in helping students make meaning of the variety and complexity in intercultural encounters (Holmes, Bavieri, & Ganassin, 2015). A strengthened educational context can encourage students to think more purposefully about how a study abroad experience informs their future careers. Moreover, study abroad can be better linked to students'

academic and professional development by incorporating the international experiences into students' academic program (Doyle et al., 2010).

Connecting international experiences to the curriculum at the home campus can result in a curriculum that consists of more international and intercultural dimensions (Beelen & Jones, 2015b). This is not only beneficial to students who went abroad but it also serves students who did not go abroad by allowing them to participate in the intercultural learning experiences (Watkins & Smith, 2018). In doing so, higher education can work towards making study abroad a more purposeful and beneficial educational experience for all students.

CHAPTER IV

THE RELATIONSHIP BETWEEN STUDY ABROAD AND GRADUATE SCHOOL ATTENDANCE: DOES THE TASTE OF STUDYING ABROAD MAKE STUDENTS HUNGRY FOR MORE EDUCATION?

The effects of study abroad have mostly been defined in terms of either students' immediate learning or career outcomes. However, some studies have suggested that study abroad can also make students more likely to attend graduate school. Using nationally representative data, the results of this study showed that students who studied abroad indeed attended graduate school more often within four years after graduation from their undergraduate degree. At the same time, students who studied abroad were generally of higher socioeconomic status (SES) than students who did not go abroad, indicating that study abroad may reproduce social inequality. While study abroad partially explained why students of high SES enroll in graduate school more often, this mediating effect was relatively small compared to other explanatory factors. These results do not only create a better understanding of the role study abroad plays in students' graduate school attendance but also highlights how students who do not have the opportunity to study abroad are disadvantaged.

Keywords: study abroad, graduate school attendance, socioeconomic status

Study abroad has been described as an educational experience that can be of great value to students' educational and professional careers (Bolen, 2001; DeGraaf et al., 2013; Mohajeri Norris & Gillespie, 2009; Teichler & Janson, 2007). Research has confirmed the effect of study abroad on direct learning outcomes like intercultural competency (Lokkesmoe et al., 2016; Salisbury et al., 2013) and later career success

(Potts, 2015; Waibel et al., 2018, 2017). Moreover, study abroad impacts students through its influence on graduate school aspiration and attendance (Dwyer, 2004; Dwyer & Peters, 2004; Mohajeri Norris & Gillespie, 2009; Paige et al., 2009). At the same time, participation in study abroad depends on the socioeconomic status as it is mostly available to students of advantaged backgrounds (Lörz et al., 2016; Perna et al., 2014; Petzold & Peter, 2015; Sánchez et al., 2006). In this way, study abroad may reproduce social inequality.

Graduate degree attendance in the U.S. is becoming increasingly important (Wendler et al., 2010). More jobs require a master's degree as industries globalize and technologies became more advanced (Legg, 2014). Moreover, a growing part of the U.S. population now obtains a bachelor's degree (National Center for Education Statistics, 2018), making graduate attendance a way for students to distinguish themselves on the job market. An educational experience like study abroad can encourage students to attend graduate school and thereby advance their careers. The effect of parental education is largely indirect by impacting students' undergraduate characteristics, such as the type of institution, academic performance and educational expectations and experiences (Mullen, Goyette, & Soares, 2003). Study abroad may constitute such a mediating experience, making students of privileged backgrounds more likely to attend graduate education, which would help explain why students from high SES backgrounds attend graduate school more often.

As pointed out by scholars before, research should pay better attention to the pressing inequalities in the U.S. educational system in general and specifically through the process of internationalization (George Mwangi et al., 2018; Marinoni & de Wit,

2019). The goal of this study is to examine the relationship between study abroad and graduate school attendance to determine whether that relationship partly explains why students of low SES attend graduate school at lower rates. This study uses nationally representative data to answer the following key questions:

1. To what extent are students who studied abroad more likely to attend graduate school compared to their peers who did not study abroad?
2. To what extent is study abroad a mediator in the relationship between SES and graduate school attendance?

More insight into the relationship between study abroad and graduate school attendance helps to unravel the effect of the study abroad experience on students' graduate school attendance, while revealing potential inequities that students experience through study abroad. The results of this study provide insight into the influence of study abroad on graduate school attendance – a topic that has not received much attention. Moreover, it will add to our understanding of how study abroad reproduces social inequality. My findings will result in recommendations for higher education institutions that are twofold. First, my results suggest how to support students better who have the opportunity to go abroad to make the most out of their abroad experience. Additionally, this study can work as a guideline for policy by showing how study abroad reproduces social inequality by benefitting some students while disadvantaging others.

Conceptual Perspectives

I use two frameworks to conceptualize how study abroad might be a way through which students reproduce their socioeconomic status. The cumulative (dis)advantage framework describes how students of well-off backgrounds accumulate symbolic and

material rewards that make them more likely to be successful later on (DiPrete & Eirich, 2006; Merton, 1988). In other words, students who are advantaged in one phase of their education can accumulate advantages, resulting in better opportunities in a later educational phase. For the transition from undergraduate to graduate education, such accumulation means that students who are advantaged during their undergraduate degree may be more likely to attend graduate school. Socioeconomic status has been shown to be related to graduate school directly (Perna, 2004), as well as indirectly. For example, SES affects graduate school enrollment through the education of their parents (Mullen et al., 2003) but also through students' financial debt as students with high debt are less likely to enroll in graduate school (Millett, 2003). Moreover, SES impacts students' graduate school enrollment through the quality of students' undergraduate degrees (Zhang, 2005). The SES of the students determines the quality of their undergraduate degree, which in turn is highly correlated with students' graduate school enrollment (Zhang, 2005). While the indirect effect of SES is often described in terms of college choice and educational quality, the impact of SES can also manifest itself through educational experiences while students are in college by doing an internship or participating in study abroad (Lehmann, 2012).

In this study, I hypothesize that students who had the privilege to study abroad accumulate an advantage in terms of learning outcomes, experiences, or extra credentials, making them more likely to enroll in a graduate program. In other words, the accumulation of educational experiences like study abroad is expected to affect the SES of students through their educational trajectories. The model of status attainment by Blau and Duncan (1967) more specifically describes intergenerational advantage by describing

the reproduction of social inequality over generations. This model conceptualizes the relationship between the socioeconomic background of the student and socioeconomic attainment, as well as how it is mediated by education. Socioeconomic background refers to characteristics that influence life chances and can include anything that exists prior to the educational experience, such as the education of the students' parents or their wealth. Socioeconomic attainment is usually referred to as occupation or income but can also include other indications like educational credentials (Bills, 2004). In this study, graduate school attendance is used as an indicator of socioeconomic attainment. The mediator in the model usually indicates any type of educational experience such as educational quality or educational programs in which a student participated, in the case of this study, study abroad.

The general status attainment model and the idea of cumulative advantage both conceptualize that students of affluent backgrounds gain experiences that give them advantages in their later educational opportunities and potentially their careers, resulting in a situation where “the rich get richer and the poor get poorer”. Over time, this process turns small socioeconomic differences into bigger ones, increasing the difficulty of ‘catching up’. While the reproduction of social inequality through education is often referred to as an underlying process in educational research, studies that test this process empirically are scarce (DiPrete & Eirich, 2006). In this study, I will examine whether students of high SES accumulate advantages over the course of their education by studying abroad, making them more likely to attend graduate school and thereby reproduce their social status. I expect that the socioeconomic background of the student

does not only impact graduate school attendance directly but also indirectly through study abroad experiences which students of high SES participate in more often.

Literature Review

The conceptual perspectives showed that SES is related to graduate school attendance in both direct and indirect ways. A review of the literature shows ways in which study abroad can be part of the reason why students' SES is related to graduate school attendance. I will review why the study abroad experience makes students more likely to attend graduate school and how students from low SES backgrounds experience lower probabilities to study abroad. Moreover, I will review other predictors of study abroad that need to be corrected for when testing if study abroad mediates the relationship between study abroad and graduate school attendance.

Study Abroad and Graduate School Attendance

While there have been no studies yet that show an effect of study abroad on graduate school enrollment, there are indications that study abroad makes students more likely to attend graduate school. In the perceptions of students who studied abroad, the study abroad experience influenced their educational decision of attending an advanced degree (Dwyer & Peters, 2004; Mohajeri Norris & Gillespie, 2009; Paige et al., 2009). Possible reasons have to do with the impact of study abroad on students' interest in continuing academic studies. A study that compared students who studied abroad for different lengths of time showed that students who studied abroad for a full year exhibit increased interest in an academic career and were more inclined to attend graduate education than students who studied abroad for shorter periods of time (Dwyer, 2004). One of the largest themes that emerged from interviews with students was that the abroad

experience made students reconsider their academic interests and made them more aware of their career goals. Specifically, studying abroad made some students more aware of their aspirations to attain a graduate degree (Paige et al., 2009).

Study abroad does not only make students more likely to develop an aspiration for attending graduate school while abroad, it can also provide students with resources that make it easier to attend graduate education. While abroad, students gain skills that make them better prepared to attend graduate education. Students reported that they gained experiences abroad that turned out to be instrumental in their graduate work (Paige, Fry, Stallman, Josić, & Jon, 2009). Students reported their study abroad experiences provided them with more time to engage in new areas of study, develop additional competencies and new interests (Dwyer, 2004). Examples of such additional competencies include field-specific skills but also more general skills such as the acquisition of a second language (Mohajeri Norris & Gillespie, 2009). Moreover, while abroad, students connect with professional contacts who can be of value in their future careers and whom they can rely on in their educational endeavors. Some people reported to have gained access to scholarships while abroad (Mohajeri Norris & Gillespie, 2009). On top of this, study abroad can be an asset on students' resumes, making them more likely to be accepted into graduate school.

Most studies on the relationship between study abroad and graduate school enrollment suggest effects based on students' reported perceptions. Some initial studies indicate that students who studied abroad indeed enrolled in graduate education more often. From a study on U.S. undergraduate students who studied abroad enrolled more often in a more advanced degree after graduating with a bachelor's, which than the

general U.S. college undergraduate population (Paige et al., 2009). The longer students stayed abroad, the more often they end up acquiring graduate and Ph.D. degrees (Dwyer & Peters, 2004). While these studies showed somewhat stronger evidence for an effect, they only compared students who went abroad for different lengths of time without comparing them to a group of non-study abroad students. Moreover, there is evidence that study abroad makes students more likely to consider seeking employment after graduation rather than enrolling in graduate school (Miller et al., 2018). In short, more insight is needed into the question of whether students who studied abroad are more likely to attend graduate school compared to students who did not go abroad. This question is especially important when considering the fact that study abroad requires a significant financial investment and is therefore only accessible to a select group of students.

SES and Study Abroad

Scholars continue to reveal substantial inequalities that are present in the opportunities to gain study abroad experiences. Only 2% of the world student population (Marinoni & de Wit, 2019), and 1.6% of all the students in the U.S. engage in study abroad (NAFSA: Association of International Educators, 2018). The percentage of students going abroad is not only very small but also highly selective. Students color and students of low socioeconomic status (SES) in particular are vastly underrepresented in the study abroad population (NAFSA: Association of International Educators, 2018). Moreover, students with disabilities, first generation, and immigrant students do not study abroad as often as other students (Dessoff, 2006; Doyle et al., 2010; Lörz et al., 2016;

Salisbury et al., 2011; Stroud, 2010). While there are many predictors of participating in study abroad, SES is often mentioned as the defining factor.

Students' SES impacts study abroad participation in multiple ways. Going abroad requires a level of comfort with travel and other cultures (Lehmann, 2012). Students of low-SES often grow up in environments where study abroad is not the norm, making them expect less of a positive impact of study abroad participation on their labor market success (Petzold & Peter, 2015). Moreover, students of low-socioeconomic status are less likely to see the value of involvement in activities like study abroad (Lehmann, 2012) and are more considerate of whether the cost exceed the expected benefits (Perna et al., 2014; Sánchez et al., 2006). Financial considerations combined with lower expectations of the benefits of study abroad, make that students of low SES backgrounds less often intend to go abroad (Lörz et al., 2016).

Study abroad requires a substantial financial investment by students. Students often pay a program fee to be able to study abroad in addition to their regular tuition. On top of this, living in a foreign country involves extra expenses in terms of travel costs, rent and visa application fees. Moreover, students may miss out on the income of a side job because of the inability to work during their time abroad. While the extra costs apply to all students, students of low-income backgrounds or with high financial needs are disproportionately affected and may experience a relatively heavier burden. Study abroad in the U.S. does not have a federal funding system like the European Erasmus program, which provides financial support to all students who go abroad via an exchange program during their undergraduate degree (Gresham & Clayton, 2011; Petzold & Peter, 2015). Instead, there is a strong presence of private foundations and organizations in the U.S.,

and a strong advocacy culture to encourage students to study abroad (de Wit, 2002). This system puts the responsibility to finance study abroad largely with the student, creating disparities in study abroad opportunities along the lines of students' SES.

As graduate school enrollment becomes more valuable to students' careers, there is an increasing need to take into consideration which students do not have the opportunity to go abroad, and therefore cannot benefit from such educational experiences. Some of the main demographic predictors of graduate school attendance are students' citizenry (Garces, 2012), gender and race and SES (Perna, 2004). Following the conceptual frameworks of cumulative advantage and status attainment, studies on graduate school attendance have shown that SES relates to graduate school attendance largely in indirect ways (Millett, 2003; Mullen et al., 2003; Perna, 2004; Walpole, 2003; Zhang, 2005). As study abroad requires substantial amounts of financial and social resources, study abroad is more accessible to students of high SES, study abroad may act as one of the ways SES indirectly impacts graduate school attendance. In this study, I hypothesize that study abroad relates to higher graduate school attendance and that this relationship partially explains why students of low SES are less likely to enroll in graduate education. By further investigating this hypothesis, this study helps to inform the conversation on the impact of study abroad on graduate school enrollment and the effects on disparities in students' opportunities to attend graduate school.

Other Predictors of Study Abroad

Previous studies have indicated that, apart from students' socioeconomic background, other demographics and college experiences influence students' study abroad participation. These factors therefore also potentially impact students' graduate

school enrollment. Women are more likely to develop the intent to study abroad (Luo & Jamieson-Drake, 2014) and students who went abroad generally have relatively high GPAs (Ingraham & Peterson, 2004; Kurt et al., 2013). Also, program flexibility plays a role in opportunities to study abroad. Students in science, technology, engineering, or math majors often experience less flexibility in their required curriculum and are less likely to develop a study abroad intention (Luo & Jamieson-Drake, 2014; Niehaus & Inkelas, 2016). The same limitations may apply to students who experience restrictions in how they can acquire course credits such as transfer students. The phase in life students are in is another large determining factor of students' study abroad aspirations and participation. Traditionally aged students have stronger social expectations and ambitions for their college experience, possibly making them more likely to aspire to study abroad (Adams & Corbett, 2010). Non-traditional students who are older, support families, or are employed full-time are often not able to go abroad for half a year because of other responsibilities (Peppas, 2003). These factors should be taken into account when examining the outcomes of study abroad.

Methods

I examined the impact of study abroad on students' graduate school enrollment in the context of students' SES, addressing two different goals. First, I investigated if there was a relationship between study abroad and graduate school enrollment. While there have been studies suggesting that students who go abroad are more likely to enroll in graduate education, no study has quantitatively tested the relationship using a comparison group of students who did not go abroad. If it was true that study abroad relates to higher graduate school attendance, the second goal of this study was to investigate to what

extent study abroad participation explained the effect of students' SES on graduate school enrollment. This mediation model is visualized in Figure 4, hypothesizing positive relationships between SES and graduate school enrollment (c), study abroad and graduate school enrollment (b) and SES and study abroad (a). I tested whether this mediation exists using data from the Baccalaureate and Beyond Longitudinal Study (B&B:08/12).

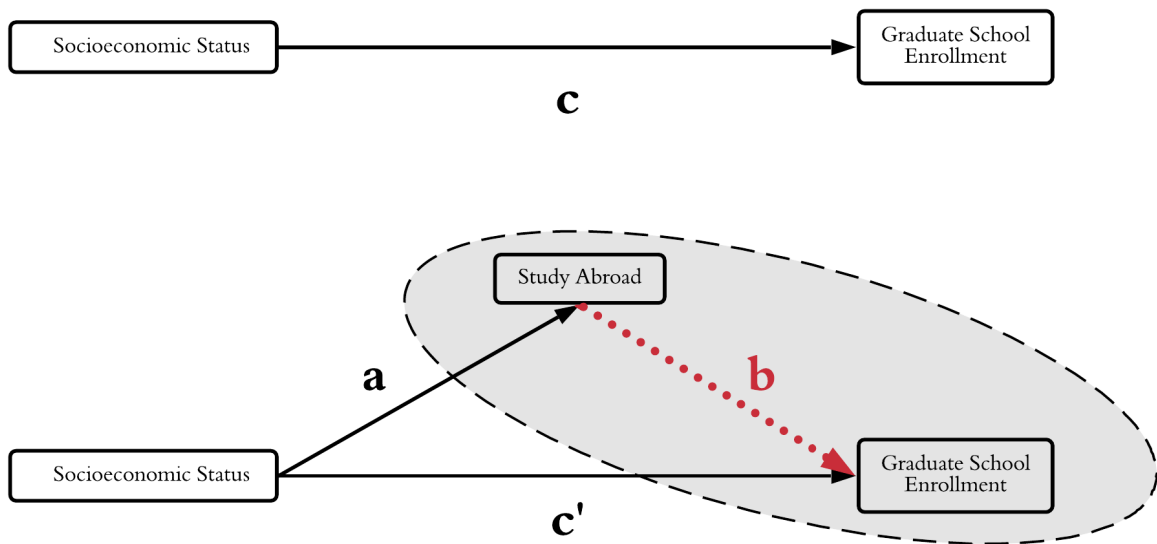


Figure 4. Conceptual model of study abroad mediating the relationship between SES and graduate school enrollment.

Data Source

The B&B:08/12 is a dataset collected by the National Center for Education Statistics (NCES). The data consists of a representative sample of graduating bachelor students who completed their bachelor's degrees in the academic year 2007-08 at a postsecondary institution in the United States. The first wave of data was collected in the academic year of 2007-08 and provides extensive information on students' demographic

characteristics and family background, the institutions at which they completed their bachelor's degree, and their college experiences, for example whether they studied abroad. The students were followed-up four years after graduation in 2012, collecting information on their education and work experiences, including their enrollment in graduate education (Cominole et al., 2015).

Sample, Missing Data and Weights

The B&B:08/12 data collection followed a complex sampling strategy. Therefore, all analyses were weighted according to standards from NCES. By performing the analyses following NCES standards, I accounted for oversampling and nonresponse (Heeringa et al., 2017). Specifically, I used the analysis weight including only members who were eligible for the study, were not deceased at the time of the B&B:08/12 data collection, had completed, partial, or abbreviated interviews in 2009 and 2012, and who had a transcript provided by the NPSAS:08 institution (Cominole et al., 2015). As this study focusses on U.S. baccalaureate students, only students who graduated from a four-year institution were included in the sample. Moreover, international students pursuing bachelor's degrees in the U.S. were removed from the sample because they already study abroad. This resulted in a final sample of 12,470 students³.

Using the weighted sample, there were missing values on the variables indicating if students had transferred (0.83%) and if they attended a selective institution (1.32%). In the final sample, the overall rate of missingness was 2.9%. Analyses were conducted using only the 12,110 complete cases, representing 97.1% of the sample.

Variables

³ All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license.

Dependent variable. The dependent variable measured students' enrollment in graduate education within four years after completing their bachelor's degree in 2007-08. Graduate education was defined as a master's degree or higher (post-master's certificate or doctoral degree), excluding post-baccalaureate certificates.

Independent variables. Participation in study abroad was measured in the final year of students' undergraduate degree (2007-08) by asking whether students had studied abroad as of their last year in college. An additional indicator specified the duration of the time abroad. The duration of the study abroad matters in students' experience abroad and the extent to which the experience affects later educational outcomes (Dwyer, 2004). Therefore, only students who studied abroad for more than four weeks were considered as having participated in study abroad for the purpose of this analysis.

Socioeconomic status (SES) was measured using students' parental educational attainment and income. Parental education was measured through the highest educational level attained by either parent as of 2007-08 on a scale from 1 (did not complete high school) to 9 (doctoral degree or equivalent). Students who did not know either parents' education were coded as missing. For financially dependent students, the income variable indicated the parents' annual income in 2006. For financially independent students, their own annual income in 2006 was used. The SES variable was computed by taking the mean of the standardized parental education and income variables. While the definition of SES preferably includes some measure of occupational status of the parents or subjective self-definition of the student (Rubin et al., 2014), the dataset used in this study did not capture this information. Moreover, previous studies suggest that when it comes to the role of SES it is mostly parental education and income that influence students'

study abroad participation (Lörz et al., 2016; Salisbury, Paulsen, & Pascarella, 2010).

Therefore, only parental education and income were used to define SES.

Covariates. Covariates described students' demographics and college experiences. Demographic covariates included sex (male/female) and age (standardized), if students were of color, from an immigrant background, grew up in a rural location, had a disability while in college, and were non-traditional. Students color were defined as students who identified as Asian, Black/African American, Hispanic/Latino, American Indian, Alaska Native, Native Hawaiian or other Pacific Islander or those who identified as another non-white race or reported more than one race. I considered immigrant students as those who immigrated to the U.S. or had foreign-born parents. Students with disabilities were those who reported having a hearing, visual, speech, language, mobility or health impairment, or students who were suffering from depression, developmental disability or brain injury. Students were defined as rural if they grew up in a remote town at least 35 miles from an urbanized area. Non-traditional students were those who were enrolled delayed, without a high school diploma, part-time, were financially independent, had dependents, or were full-time employed while enrolled.

College experience covariates included students' undergraduate GPA, whether the student was a transfer student, graduated with academic honors, majored in STEM (Science, Technology, Engineering or Mathematics) and the number of hours spent on schoolwork per week. Moreover, institutional characteristics indicated whether the student was enrolled in a public or selective institution.

Data Analyses

Descriptive statistics and mean comparisons were provided to create an understanding of the difference between students who did and those who did not study abroad when it comes to SES and graduate school enrollment, as well as their demographics and college experiences. Logistic regression analyses were used to investigate significant predictors of study abroad participation and graduate school enrollment while holding students' demographics and college experiences constant. A mediation analysis provided more insight into how study abroad participation mediated the relationship between socioeconomic status and graduate school enrollment.

Descriptive statistics and mean comparisons. Descriptive statistics provided a first glance of the students in the sample overall, as well as for the two groups of students who studied abroad and who did not specifically. Mean comparison tests indicated whether the students who went abroad differed significantly from those who did not, considering graduate school enrollment rates, SES, demographics, and college experiences. T-tests were used for the continuous variables and Chi-Squared tests for the dichotomous variables.

Logistic regressions. I conducted four regressions, representing the distinct relationships involved in a mediation analysis. A first logistic regression was used to further understand research question one, testing whether study abroad participation significantly predicted students' likelihood of enrolling in graduate school, as indicated by *b* in Figure 4. By running a regression model including covariates, I investigated whether study abroad participation significantly predicted graduate school enrollment while holding students' demographics, college experiences, and SES constant.

$$\text{Graduate School Enrollment} = \beta_0 + \beta_1 * \text{Demographics} + \beta_2 * \text{College Experiences} + \beta_3 * \text{Study Abroad} + \text{Error}$$

To address the final research question examining to what extent is study abroad a mediator in the relationship between SES and graduate school attendance, I executed regression models for the other paths in the mediation model. A second logistic regression clarified to what extent SES predicts study abroad participation correcting for students' demographics and college experiences, as indicated by *a* in Figure 4.

$$\text{Study Abroad Participation} = \beta_0 + \beta_1 * \text{Demographics} + \beta_2 * \text{College Experiences} + \beta_3 * \text{SES} + \text{Error}$$

The third regression model tested the total effect of SES on graduate school enrollment adjusting for all covariates while excluding study abroad participation, as indicated by *c* in Figure 4.

$$\text{Graduate School Enrollment} = \beta_0 + \beta_1 * \text{Demographics} + \beta_2 * \text{College Experiences} + \beta_3 * \text{SES} + \text{Error}$$

The fourth regression model tested the direct effect, as indicated by *c'* in Figure 4 by running the model testing the total effect *c* but now including study abroad participation as a covariate.

$$\text{Graduate School Enrollment} = \beta_0 + \beta_1 * \text{Demographics} + \beta_2 * \text{College Experiences} + \beta_3 * \text{Study Abroad} + \beta_4 * \text{SES} + \text{Error}$$

Because my sample consists of more than 10,000 cases, the standard error becomes small, increasing the chance of rejecting the null hypothesis. Therefore, I choose to, adjust the p -value thresholds in the regression analyses down to $p < .01$ and $p < .001$ and to define a p -value of .05 as only marginally significant (Lin, Lucas, & Shmueli, 2013). Moreover, I decided to report average marginal effects (AME) in addition to odds ratios, allowing for a more intuitive interpretation of the regression results (Long & Freese, 2014; Mitchell & Chen, 2005).

Mediation. The regression analyses provided more insight into the relationship between study abroad, SES and graduate school enrollment. I expected that part of why students of high SES enroll in graduate school more often is because they studied abroad more frequently. Mediation effects have often been tested by comparing the model of the key predictor and controls to the same model, including the mediator. If the coefficient of the key predictor was reduced or became nonsignificant once the mediating variable was added, authors would conclude the total effect had been mediated (Mustillo, Lizardo, & McVeigh, 2018). This method has already been questioned for its accuracy with linear models and is especially problematic when used for nonlinear models (VanderWeele & Vansteelandt, 2010). In nonlinear regression, the coefficients are dependent on the variables in the model (Mackinnon & Dwyer, 1993). As the models with and without the mediator have different variables in the model and are not nested, the scale of the

prediction varies, making it inappropriate to determine mediation merely by looking at changes in coefficient magnitude across models, or even at the change in statistical significance of those coefficients (Imai, Keele, & Tingley, 2010; VanderWeele, 2016; VanderWeele & Vansteelandt, 2010). Therefore, appropriate mediation analysis is required (Mackinnon & Dwyer, 1993).

I ran a statistical test to determine if the mediation model was significant by examining changes in probability. Specifically, I compared the change in probability of graduate school enrollment between models that include and exclude the mediator. If the change in probability with and without the mediator was significantly different, this would mean that study abroad explained a significant part of why SES was related to graduate school enrollment. I used different ranges of a change in SES to see if the findings were robust across the SES distribution. Specifically, I tested 5 incremental changes: the change in probability for enrolling in graduate school when increasing SES from 1 and 2 standard deviations below the mean to the mean, and from 1 and 2 standard deviations above the mean to the mean. Moreover, I tested the change in probability of enrolling in graduate school when increasing students' SES from 1 standard deviation below the mean to 1 standard deviation above the mean. The comparison of change in probabilities between the two models was bootstrapped to calculate robust standard errors (Angrist & Pischke, 2009). Specifically, the comparisons were performed 200 times on different subsets of the sample, making the standard errors less biased, resulting in better estimates.

Results

Results of the descriptive statistics and mean comparisons provided insight into the extent to which students who studied abroad differ from those who did not, specifically in terms of SES and graduate school enrollment. Regression analyses indicated that students of high SES were more likely to have studied abroad and that study abroad related to higher graduate school enrollment. Finally, the results of the mediation analysis showed that study abroad was a mediator in the relationship between SES and graduate school enrollment in the uncorrected model. When holding students' demographics and college experiences constant, this mediating effect became insignificant, indicating that study abroad plays a relatively small role in the reproduction of social inequality.

Who Studied Abroad?

Table 5 shows how students who studied abroad differ from other students on the variables of interest – SES and graduate school enrollment – and on their demographics and college experiences. The mean comparisons provide an initial answer to research question one asking to what extent students who studied abroad are more likely to attend graduate school compared to their peers. Students who studied abroad enrolled in graduate school significantly more often compared to students who did not study abroad. While 45% of the students who studied abroad enrolled in graduate school, the percentage of students who enrolled in graduate school was only 33% for the students who did not go abroad. Moreover, students who studied abroad had a higher average SES (0.62) than students who did not study abroad (0.10). These results show that, first, students who studied abroad enrolled in graduate school more often. Second, students

who went abroad were generally of higher SES backgrounds, indicating the importance of considering students' SES when investigating the effect of study abroad on graduate school enrollment.

The descriptives and mean comparisons show that, apart from SES, the two groups of students differed on a wide range of demographic and college experiences. Students who studied abroad were more often female (68% compared to 56%), less often of color (17% compared to 28%), less often immigrants (18% compared to 21%), and less often from rural backgrounds (20% compared to 28%). In terms of college experiences, students who studied abroad had a higher average undergraduate GPA (336 versus 324), more often graduated with academic honors (50% compared to 38%) and spent more hours a week on schoolwork (17 versus 15 hours a week). Students who studied abroad were less often transfer students (7% versus 23%) and were less often enrolled in a STEM major (10%) compared to other students (14%). Students who studied abroad were, on average, older and less often non-traditional (32%) compared to other students (57%).

Moreover, students who studied abroad less often attended public institutions (50% versus 64%) and were more often enrolled at selective institutions (52% compared to 27%). The mean comparisons confirm previous studies indicating inequities in study abroad opportunities. Generally, students who studied abroad were more often high-achieving students or students who came from privileged educational backgrounds.

Table 5. Means, standard errors and mean comparisons for all variables.

	All students N=12,110	Studied abroad N=1,360	Did not study abroad N=10,750	Diff.
Variable	Mean	Mean	Mean	
Studied abroad	0.11 (0.01)	--	--	
Dependent Variable				
Enrolled in grad school	0.35 (0.01)	0.45 (0.02)	0.33 (0.01)	0.12**
Independent Variable				
SES	0.15 (0.02)	0.62 (0.04)	0.10 (0.02)	0.52**
Demographics				
Female	0.58 (0.01)	0.68 (0.02)	0.56 (0.01)	0.12**
Age	1.62 (0.02)	1.22 (0.02)	1.68 (0.02)	-0.46**
Of color	0.26 (0.01)	0.17 (0.02)	0.28 (0.01)	-0.11**
Immigrant	0.21 (0.01)	0.18 (0.02)	0.21 (0.01)	-0.03
Rural	0.27 (0.01)	0.20 (0.02)	0.28 (0.01)	-0.08**
With a disability	0.08 (0.00)	0.09 (0.01)	0.08 (0.00)	0.01
Non-traditional	0.54 (0.01)	0.32 (0.02)	0.57 (0.01)	-0.25**
College experiences				
Undergraduate GPA	325.78 (1.04)	336.40 (3.16)	324.43 (1.02)	11.97* *
Transfer	0.21 (0.01)	0.07 (0.01)	0.23 (0.01)	-0.16**
Honors	0.40 (0.01)	0.50 (0.02)	0.38 (0.01)	0.12**
Hours/week spent on school	15.14 (0.17)	17.02 (0.51)	14.90 (0.17)	2.12**
STEM major	0.13 (0.01)	0.10 (0.01)	0.14 (0.01)	-0.04*
Public institution	0.62 (0.01)	0.50 (0.03)	0.64 (0.01)	-0.14**
Selective institution	0.30 (0.02)	0.52 (0.04)	0.27 (0.02)	0.25**

Note. All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license. Significant differences between students who did and did not go abroad indicated. ** p<0.001, *p<0.01, + p<0.05 as determined using two-tailed tests. Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics.

The descriptives showed that students who studied abroad differed with respect to their average SES as well as on a wide range of demographics and college experiences. These variables need to be corrected for when investigating the effect of study abroad on graduate school enrollment. Regression analyses investigate the effects in the mediation model by correcting for the possible confounding factors.

Study Abroad and Graduate School Enrollment

Table 6 presents results from three logistic regressions. The first model tested the relationship between study abroad and graduate school enrollment. The second model tested the relationship between SES and graduate school enrollment while holding students' demographics and college experiences constant. The third model depicts how the model predicts graduate school enrollment when including both study abroad and SES as predictors.

Together with the mean comparisons, Model 1 and Model 3 answer the first research question and test effect b as visualized in Figure 4. The mean comparisons already evaluated that students who studied abroad more often enrolled in graduate school, four years after students completed their undergraduate degree. Model 3 indicates that, although marginally significant, study abroad is a positive predictor of graduate school enrollment, also when correcting for students' demographics and college experiences. The difference in significance of the study abroad variable between the results of the mean comparisons and the regression analysis shows that part of the reason why students who studied abroad were more likely to enroll in graduate school can be explained by students' demographic backgrounds and college experiences. Model 3

shows that also when including SES as variables in the model, study abroad participation is marginally significant in predicting graduate school enrollment.

Table 6. Graduate school enrollment - logistic regression.

Variables	Model 1		Model 2		Model 3	
	Odds	AME	Odds	AME	Odds	AME
Independent Variables						
SES			0.084 (0.047)	0.018 (0.010)	0.076 (0.047)	0.016 (0.010)
Studied Abroad	0.224+ (0.104)	0.047+ (0.022)			0.207+ (0.104)	0.044+ (0.022)
Demographics						
Female	0.132 (0.072)	0.028 (0.015)	0.150+ (0.072)	0.032+ (0.015)	0.140 (0.072)	0.029 (0.015)
Age	-0.227** (0.058)	-0.048** (0.012)	-0.222** (0.058)	-0.047** (0.012)	-0.214** (0.058)	-0.045** (0.012)
Of color	0.473** (0.087)	0.100** (0.018)	0.492** (0.089)	0.104** (0.018)	0.501** (0.089)	0.105** (0.018)
Immigrant	-0.215+ (0.090)	-0.045+ (0.019)	-0.209+ (0.089)	-0.044+ (0.019)	-0.210+ (0.090)	-0.044+ (0.019)
Rural	-0.017 (0.070)	-0.004 (0.015)	-0.015 (0.071)	-0.003 (0.015)	-0.008 (0.070)	-0.002 (0.015)
Disability Status	-0.088 (0.124)	-0.019 (0.026)	-0.092 (0.124)	-0.019 (0.026)	-0.095 (0.125)	-0.020 (0.026)
Non-traditional	-0.267* (0.089)	-0.056* (0.019)	-0.245* (0.091)	-0.052* (0.019)	-0.243* (0.091)	-0.051* (0.019)
College experiences						
Undergrad GPA	0.006** (0.001)	0.001** (0.000)	0.006** (0.001)	0.001** (0.000)	0.006** (0.001)	0.001** (0.000)
Transfer	0.032 (0.080)	0.007 (0.017)	0.039 (0.082)	0.008 (0.017)	0.047 (0.082)	0.010 (0.017)
Honors	0.365** (0.079)	0.077** (0.017)	0.367** (0.079)	0.077** (0.017)	0.364** (0.079)	0.077** (0.016)
Hrs on school work	0.001 (0.003)	0.000 (0.001)	0.001 (0.003)	0.000 (0.001)	0.001 (0.003)	0.000 (0.001)
STEM major	0.326** (0.090)	0.069** (0.019)	0.312** (0.091)	0.066** (0.019)	0.324** (0.090)	0.068** (0.019)
Public institution	0.183* (0.070)	0.039* (0.015)	0.179* (0.069)	0.038* (0.015)	0.190* (0.070)	0.040* (0.015)
Selective institution	0.268** (0.075)	0.056** (0.016)	0.267** (0.074)	0.056** (0.016)	0.251** (0.074)	0.053** (0.015)
Observations	12,110		12,110		12,110	

Note: Standard errors in parentheses. All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license. ** $p < 0.001$; * $p < 0.01$; + $p < 0.05$

Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics.

SES and Study Abroad Participation

The indirect effect of SES on graduate school enrollment is tested further by a regression of SES predicting study abroad participation. From the descriptives and mean comparisons, it became clear that students who studied abroad had an higher average SES compared to students who did not go abroad. The results of the regression analysis presented in Table 7 show that SES also significantly predicts study abroad participation when holding students' demographics and college experiences constant ($\beta = .316$, $p < .001$). These results answer the first research question and represent effect *a* as in Figure 4.

Table 7. Study abroad participation – logistic regression.

Variables	Odds Ratios	AME
Independent Variables		
SES	0.316** (0.059)	0.028** (0.005)
Demographics		
Female	0.514** (0.115)	0.046** (0.010)
Age	-0.637** (0.102)	-0.056** (0.009)
Of color	-0.551** (0.146)	-0.049** (0.013)
Immigrant	0.043 (0.166)	0.004 (0.015)
Rural	-0.374** (0.108)	-0.033** (0.010)
Disability Status	0.107 (0.174)	0.009 (0.015)
Non-traditional	-0.092 (0.123)	-0.008 (0.011)
College experiences		
Undergrad GPA	0.002	0.000

	(0.002)	(0.000)
Transfer	-0.668**	-0.059**
	(0.181)	(0.016)
Honors	0.129	0.011
	(0.155)	(0.014)
Hrs on school work	0.015*	0.001*
	(0.005)	(0.000)
STEM major	-0.590**	-0.052**
	(0.134)	(0.012)
Public institution	-0.380*	-0.034**
	(0.117)	(0.010)
Selective institution	0.715**	0.063**
	(0.123)	(0.011)
Observations	12,110	12,110

Note: Standard errors in parentheses. All reported sample sizes are rounded to the nearest 10 in accordance with NCES restricted data license. **p<0.001; *p<0.01; +p<0.05

Source: *Baccalaureate and Beyond Longitudinal Study (B&B:08/12)*, 2008-2012, U.S. Department of Education, National Center for Education Statistics.

SES and Graduate School Enrollment

The third aspect in the mediation model the effect of SES on graduate school enrollment, visualized by c' in Figure 4. Model 2 in Table 6 presents the results of the regression model testing if SES still predicts graduate school enrollment when correcting for students' demographic characteristics and college experiences. These results show that while students of higher SES more often enrolled in graduate school, this effect is not significant when correcting for students' demographics and college experiences. This means that the total effect as indicated by c in Figure 4 is insignificant when taking into account all the covariates. The relationship between SES and graduate school enrollment is largely explained by students' demographics and college experiences. Model 3 in Table 6 represents the results of the regression model that also includes study abroad as a predictor. Including study abroad as covariate did not change the significance of SES.

Often the absence of a change in significance of the direct effect when including the mediator is used as a reason to not further test for mediation. However, changes in

statistical significance of coefficients, or the absence thereof, do not necessarily indicate mediation (Imai et al., 2010; VanderWeele, 2016; VanderWeele & Vansteelandt, 2010). Therefore, these results do not necessarily mean that study abroad is not a mediator of the relationship between SES and graduate school enrollment. In order to test if study abroad explains part of the relationship between SES and graduate school enrollment, a mediation analysis is required. However, these results do show that the majority of the effect of SES on graduate school enrollment can be explained by students' demographics and college experiences, and is likely not explained by students' study abroad participation.

Study Abroad as Mediator

I tested if study abroad was a significant mediator in the relationship between SES and graduate school enrollment by comparing the change in probability to enroll in graduate school when increasing SES, with and without including the study abroad participation in the predictive model. As the SES variable was measured on a continuous scale, I set the increase of SES at pre-determined values. Specifically, I looked at the change in probability of enrolling in graduate school when increasing SES from 1 and 2 standard deviations below the mean to the mean. Similarly, I compared the change in probability when increasing SES from the mean to 1 and 2 standard deviations above the mean. Moreover, I tested the change in probability when increasing students' SES from 1 standard deviation below to 1 standard deviation above the mean. For the model including the covariates, none of the incremental changes in SES resulted in a significant difference in the change in probability between the model with and without the mediator. This means that the relationship between SES and graduate school enrollment was not

mediated by study abroad when holding students' demographics and college characteristics constant.

To further understand the mediating role of study abroad, I tested the mediation model without covariates but only including SES, graduate school enrollment and study abroad participation. In this unadjusted model, study abroad was a significant mediator of the relationship between SES and graduate school enrollment. Part of the reason why students of high SES enroll in graduate school more often is because of their higher study abroad participation rates. As shown in the previously tested mediation model, the mediating effect of study abroad is too small to be significant when considering students' demographics and other college experiences. This shows that study abroad plays a role in reproducing social inequality but that this mediating effect is small relative to other predictors. In other words, while study abroad does seem to make students slightly more likely to enroll in graduate school, this is a relatively small part of the reason why students of high SES enroll in graduate school more often.

Discussion

This study shows that students who studied abroad attend graduate school more often. At the same time, students who studied abroad were generally from privileged academic and socioeconomic backgrounds, which made them more likely to attend graduate school. When adjusting for students' demographics, college experiences and SES, study abroad participation was still a positive predictor of graduate school enrollment, although marginally significant. Moreover, the mediation analysis showed that while study abroad played a role in explaining why students of high SES enrolled in graduate school more often, this effect was small relative to all the other factors that

explained this relationship. I will discuss what the results of this study mean for higher education research and institutions.

While study abroad is often described in terms of direct learning or career outcomes, no study had yet shown the effect on graduate school enrollment before. As shown in previous research, students who studied abroad more often aspired to attend graduate school and applied for graduate school more often (Dwyer, 2004; Dwyer & Peters, 2004; Paige et al., 2009). Part of the reason why students who went abroad had a higher likelihood to enroll in graduate school could be explained by increased aspirations for these students. Another explanation could be that students who studied abroad are more likely to be accepted into graduate programs by having a study abroad experience on their resumes. Research has shown that study abroad mostly impacts students who aspire to global careers (Mohajeri Norris & Gillespie, 2009). As academic jobs often have a large international component, it is conceivable that study abroad is an extra-curriculum credential that gives students an advantage, especially for academic programs. Future studies can shed light on reasons why students who studied abroad enrolled in graduate school more often. For example, studies can investigate whether graduate school aspirations differ before and after the abroad experience. Moreover, future studies can provide a better sense of the relative impact of students' aspirations and extra credentials on the likelihood to enroll in graduate school.

Future research can also investigate what specific experiences make students more likely to enroll in graduate school by distinguishing the types of activities or academic programs that students were involved in while studying abroad. For graduate school enrollment specifically, it is possible that study abroad is more relevant for

students who gain some field-specific or research experience while abroad. By gaining insight into the specific experiences that create a positive effect on graduate school attendance, students can be better informed when it comes to study abroad and whether it is likely to be beneficial to their academic careers. Moreover, it can inform higher education institutions as to which educational initiatives are worth implementing on the home campus so that students who do not have the opportunity to study abroad can also explore their graduate school aspirations and be equally competitive when applying to graduate school or on the job market.

The results of this study show that the socioeconomic background of the students plays a large role in U.S. students' educational opportunities, both in terms of graduate school enrollment and study abroad participation. The results also showed the impact of indirect effects of students' SES on their educational opportunities. While study abroad significantly mediated the relationship between SES and graduate school enrollment, the mediating role of study abroad became insignificant when accounting for students' demographics and college experiences. In other words, the effect of SES on graduate school enrollment is largely explained by students' demographic characteristics, college experiences, and institutional characteristics. The mediating role of study abroad is negligible compared to other factors like students' college experiences and institutional characteristics. This indicates that in future studies examining educational outcomes, instead of only correcting for SES, research should also take into account ways in which SES impacted students' college experiences and thereby indirectly impact student outcomes.

The study was conceptualized using Blau & Duncan's model of social reproduction (1967), expecting that study abroad is an educational experience that reproduces social status. The insignificant mediation model shows that, by the time students graduate from their undergraduate degree, there already have been many ways in which their SES impacted their educational opportunities and trajectories. Students of high SES attend certain types of institutions, are enrolled in certain types of programs that tend to explain most of the effects on graduate school attendance. While study abroad did not turn out to be a significant direct contribution to social reproduction, this study shows the importance of researching education by revealing the benefits that the educational system conveys early on. The findings of this study therefore highlight the importance of mitigating the selective disadvantages that end up irreversibly perpetuating the spirals of inequality in education.

CHAPTER V

CONCLUSIONS, DISCUSSION & FUTURE CONSIDERATIONS.

Study abroad is one of the main ways in which higher education institutions provide students the opportunities to gain international experiences. While study abroad has been shown to contribute to students' learning and development, the results in this dissertation indicate that there is another side to the story. In the U.S., study abroad is most accessible to students of socially and culturally advantaged backgrounds. At the same time, participation in study abroad makes students more likely to enroll in graduate school. Students who are already well-off gain an advantage in their educational attainment. Therefore, study abroad is playing a role in the reproduction of social inequality. I will discuss what the results of this dissertation mean for the pedagogical context of study abroad, measures of success and the need for alternatives to study abroad. Moreover, I will discuss the role of higher education institutions and their responsibility in better preparing all students for an increasingly globalizing future.

Study Abroad as Reproducer of Social Inequality

This dissertation provides insight into the ways in which study abroad reproduces social inequality by presenting three studies on the disparities in study abroad opportunities and the socioeconomic outcomes of study abroad. Chapter II showed that first generation students, low-income students, students of color, and rural students are significantly less likely to study abroad than their peers. First generation status, being a student of color, and having a rural background are significant predictors of study abroad participation, even when correcting for students' demographics and college

characteristics. The large disparities in study abroad participation rates highlight the need for an increased effort of higher education institutions to provide equitable opportunities for students to gain international experiences.

The disparities in study abroad opportunities are especially problematic as the abroad experience affects socioeconomic status later on in students' lives. While study abroad does not reproduce social inequality directly in terms of early career income (Chapter III), it does in terms of educational attainment (Chapter IV). Students who studied abroad are more likely to enroll in graduate school (within four years after graduating from their bachelors' degree). While the effect of study abroad was observed in terms of educational attainment, there was no effect in terms of job income. However, the graduate degrees may, in the long run, result in a higher income. Future research should reveal the effects of study abroad over a longer time period to fully understand ways in which study abroad participation impacts students' future. Using data collected at least ten years after students graduated from their undergraduate degrees will allow for a better sense of whether study abroad, next to reinforcing educational attainment inequality, also reinforces inequality in terms of job income.

This dissertation highlights the importance of carefully considering covariates in the analysis. As students who go abroad are more often from advantaged backgrounds, factors that impact students' opportunity to study abroad might also impact socioeconomic outcomes like job income and graduate school enrollment. Without correcting for such confounding factors, the effect attributed to study abroad might be caused by the fact that the students who have the opportunity to go abroad are advantaged in other ways. While on one hand this dissertation showed the importance of taking into

account confounding factors, it also highlighted the value of descriptive statistics. Students who go abroad differ substantially from students who do not go abroad. Correcting for unequal participation in study abroad with methods like propensity score analysis gets us closer to gaining an understanding of the effect of studying abroad. However, by correcting for students' inequitable opportunities to study abroad, the research does not tell us much about to whom the effect that is investigated applies. As education takes place in a larger context of societal injustice, scholars and educators should not lose sight of the value of descriptive analyses. By only paying attention to causal effects without considering the descriptive context, scholars and educators will miss a big part of the story.

Pedagogical Context of Study Abroad

The fact that study abroad does not affect early career income, does not mean that study abroad is not valuable to students' development. There are many ways in which study abroad has been shown to contribute to students' learning (Marcotte, Desroches, & Poupart, 2007; Salisbury, An, & Pascarella, 2013; Teichler & Janson, 2007; Waibel, Rüger, Ette, & Sauer, 2017; Wiers-Jenssen & Try, 2005). While study abroad is clearly a valuable experience to students, this dissertation does raise the question if study abroad is effective at preparing students for their later jobs.

In the past couple of decades, study abroad has increasingly been commercialized and stripped from its educational context (Bolen, 2001; Reilly & Senders, 2009). However, it is mostly the educational guidance and mentoring that helps students recognize the variety and complexity in intercultural encounters (Holmes et al., 2015) and what makes the abroad experience meaningful to students' future lives and careers

(Doyle et al., 2010). Without the proper educational guidance, students often remain unaware of what they have learned, fail to communicate their competencies to employers, and fail to apply their experiences in their work (Messelink et al., 2015). The lack of educational guidance of study abroad participation is not only problematic in terms of the learning potential of abroad experiences but also in terms of U.S. students' behavior while abroad. Without educational guidance, students might be unconsciously reinforcing prevailing social hierarchies and exacerbating inequitable distributions of power and privilege (Gorski, 2008). In the words of Trede et al., (2013):

“Immersion in culture is not, on its own, an assurance of intercultural learning. Providing international experiences without a pedagogical framework that helps students to reflect on self and others can be a wasted opportunity and runs the risk of reinforcing stereotypical thinking and racist attitudes.” (p. 442)

Future studies should gain a better understanding of what higher education institutions can do to create a pedagogical context that better prepares students for their time abroad. Moreover, research should examine what higher education institutions can do to help students integrate what they learned abroad into their lives. Such research on students' learning outcomes does not need to be limited to academia but can also be conducted by international offices on college campuses. International offices often already conduct surveys examining students' satisfaction with the abroad experience. These surveys can include indicators of learning outcomes and questions related to students' academic and career aspirations. Measurements on these learning outcomes can be used as an educational tool to encourage students to reflect on their experiences abroad. Moreover, these data can help international offices to indicate the required

resources, allowing these offices to better support students in their abroad endeavors pre-departure and post-return.

Measures of Success: The Need for Additional Data

In promoting study abroad, career outcomes are often mentioned as the ultimate outcome. Similarly, the expectation of earning a higher income is one of the reasons for students to consider a semester abroad (Miller, Rocconi, & Dumford, 2018). The absence of an effect of study abroad on early career income shows that this ‘return on investment’ thinking is generally misguided. Higher education institutions should inform students better about the ways an abroad experience benefits their learning and be realistic about the specific ways study abroad is, or is not likely to impact students’ careers. For the students who are concerned about the financial return on their investment, higher education institutions should be clear in what ways study abroad relates to socioeconomic outcomes. For example, students can be advised to, depending on their specific field of study, attend certain institutions or engage in certain types of experiences abroad that are known to be highly valued by future employers. More importantly, students should be better informed about the other ways in which study abroad is beneficial to their development, careers and future lives as these can be at least as relevant reasons for students to study abroad.

The socioeconomic outcomes investigated in this dissertation (job income and graduate school enrollment) were not investigated because they are the most important results of studying abroad, but because these outcomes provide the best insight into the ways in which study abroad reproduces social inequality. Using these outcomes, I risk reinforcing the idea that the main goal of study abroad is financial gain or status

attainment. The conclusion that study abroad does not directly relate to early career income reminds us, however, that the value of study abroad for students' lives and careers cannot, and should not, be measured and evaluated only in terms of socioeconomic outcomes. A broader definition of what it means to be a successful and productive employee or citizen can help us understand how study abroad benefits learning and development. Examples of such outcomes could be measures on how well employees work in diverse teams or in international projects, or their attitudes towards people with different cultural backgrounds and nationalities.

Apart from a broader definition of career success, higher education research should indicate in what way study abroad contributing to educating better prepared global citizens. While preparing students for a career is an important goal of education, scholars and practitioners should keep in mind the mission study abroad was originally meant to serve: to create competent global citizens (Reilly & Senders, 2009). For research to examine measures of success other than socioeconomic outcomes, national centers that collect data on education (e.g. the National Center for Education Statistics) should include measures indicating success that go beyond only socioeconomic outcomes. Moreover, the data collected should provide a better sense of the role of study abroad in students' lives by distinguishing different types of experiences abroad. While the data collected by the National Center for Education Statistics asked whether students studied abroad, no specific information was gathered about study abroad experiences (e.g. the country students went to and the type of educational program students were engaged in). With more detailed data about the abroad experience, the outcome of study abroad can be contextualized using the specific experiences students had. Moreover, by realizing how

specific study abroad experiences impact various learning outcomes, educational practices can be implemented at campuses that provide all students with the opportunity to develop these skills, whether students decide to study abroad or not.

Alternatives to Study Abroad

International experiences continue to be important in preparing students for an internationalized future. However, even if study abroad would be more accessible, it is unlikely to serve all young people in gaining international experiences. Besides the concerns about social and cultural exclusion and the reproduction of social inequality, the increasing awareness of climate change further complicates the role of study abroad in higher education (Pashby & de Oliveira Andreotti, 2016). Relying on students going abroad in order to gain essential learning experience can have damaging effects on the world in terms of pollution and carbon emission caused by air-travel. Alternatives to study abroad are needed to provide all students with the opportunity to gain international experiences.

Internationalization at Home is the purposeful integration of international and intercultural dimension into the formal and informal curriculum within domestic learning environments (Beelen & Jones, 2015a). This alternative to study abroad addresses the need to reduce carbon emission, as well as the possibility to include more students in internationalization efforts (Watkins & Smith, 2018). Internationalization at Home practices can take the form of extracurricular activities, for instance, projects where students build relationships with local culturally and ethnically diverse communities (Beelen & Jones, 2015a; Watkins & Smith, 2018). Another way for students to gain international experiences is by participating in online group projects with students in

other parts of the world. Also, by encouraging domestic and international students at U.S. campuses to interact, opportunities to gain international experiences can be created within the context of their own country. In addition to the benefits for domestic students, these encounters can help engage international students on campus (Jon, 2013). Such Internationalization at Home practices form an integral part of students' curriculum and make international experiences accessible to more students.

Other alternatives to study abroad can be found in domestic exchange programs, which allow students to do a part of their degree at a different university in the U.S. As the U.S. is a diverse country, students can gain intercultural experiences without crossing national boundaries. Other alternatives to study abroad are short-term programs. Shorter programs would students who cannot be away from home for more than four weeks to still gain international experiences. Moreover, short-term programs are often faculty-lead and closely related to students' academic programs.

Future research should compare the learning that occurs while abroad with the learning that occurs while students engage in alternative educational experiences. More research is required to ensure that such Internationalization at Home practices are implemented effectively and do not serve as a second-best option to study abroad. There may be types of learning in the informal domain that students miss out on when participating in shorter programs or international activities on the home campus. At the same time, Internationalization at Home or short-term abroad programs are often better integrated into students' curriculum and better link students' international experiences to their field of study, potentially making the experience more relevant to students' academic and career aspirations. Moreover, the alternatives to study abroad often require

students of diverse cultural backgrounds to collaborate more intentionally, potentially leading to more fruitful interactions. So while it is possible that alternatives to study abroad may become viewed as second best options compared to participation in a study abroad program, they may actually create a richer learning experience.

Call for Action: Implications for Higher Education Institutions

This dissertation shows how study abroad programs work for some students while disadvantaging others. Even though most institutions address issues of diversity in their mission or diversity statements (Wilson & McNeal, 2012), study abroad remains primarily available for students of already advantaged backgrounds, reinforcing social inequality. If institutions mention diversity in their mission and diversity statements, the educational policies implemented should contribute to that goal: providing all students with equal opportunities to engage in educational opportunities. The findings resulting from this dissertation indicate what higher education institutions need to do to create more equitable internationalization opportunities. As discussed in the introduction of this dissertation, study abroad is prone to reproducing social inequality because of the way in which higher education policy in the U.S. is organized. Study abroad policy is barely regulated federally, placing the responsibility for internationalizing efforts mainly with postsecondary institutions (Ruther, 2002; Trilokekar, 2015). Correspondingly, the main way to make international experiences more equitable is through institutional policies. Based on the results from this dissertation, three main implications can be distilled that need to be implemented by higher education institutions to work towards building a learning environment that prepares all students for a globalized future.

First, higher education institutions should actively work towards making study abroad programs more accessible. While previous studies have already shown lower study abroad participation rates for low-income and first generation students, rural students have not yet been recognized as having lower probabilities to study abroad. Next to providing grants to encourage students of underrepresented populations, institutions should provide better information about study abroad opportunities. By reaching out to student groups that aspire to study abroad less often, information will be provided all students on campus, not just those who are already familiar with study abroad. Moreover, information should be provided earlier on in students' undergraduate degrees so that students who have responsibilities in terms of family or work are allowed more time to explore and plan for study abroad.

Second, higher education institutions should provide better educational guidance around the study abroad experience. One way in which this can be facilitated is through pre-departure and post-return workshops in which students are encouraged to incorporate their study abroad experience into their academic program and their future careers. Higher education institutions should allocate resources to international offices so they can provide such educational guidance. Faculty and staff can also play a role in encouraging students to integrate the abroad experiences into the regular curriculum. Faculty and staff should be trained in engaging the cultural and national diversity and experiences of students in their teaching. The diverse perspectives that are present in the classrooms can be a result of students' international experiences but also through their cultural backgrounds or their experiences in navigating cultural transitions such as adjusting to a college environment. By providing training and professional development, instructors can

embrace this diversity and use it to inform their students' learning. This will not only encourage students to use their international experiences in their coursework, but at the same time, offers a way to make international perspectives an integral part of the regular curriculum. In doing so, all students can be provided with richer learning environments that prepare them for the diversity they encounter now and in their future careers.

Thirdly, higher education institutions should develop high-quality alternatives to study abroad that give all students the opportunity to gain intercultural experiences without the need to travel abroad for a semester or more. Internationalization at Home provides students with the opportunity to gain international experiences through extracurricular activities, online international group projects, or intensified interaction between domestic and international students on campus (Beelen & Jones, 2015a; Watkins & Smith, 2018). In the development of alternative experiences to studying abroad, higher education institutions should make sure that they do not become second-best-options. By allocating sufficient resources to these new forms of internationalization, higher education institutions can ensure a high-quality standard that helps making international experiences more accessible and more effective. Higher education institutions can thereby contribute to a world in which all students have equal and abundant opportunities to develop to their full potential.

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